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Automotive Daily News

★CARS★ SHOP EQUIPMENT TRUCKS ★★AVIATION★★ PARTS ACCESSORIES ★TIRES★

Vol. 10. No. 1294 — Entered as second class matter Aug. 27, 1925 Post Office, N. Y., N. Y., Under Act of March 3, 1879 — NEW YORK, FRIDAY, SEPTEMBER 12, 1930 — 10 Cents. $12 Per Year

DEALERS URGED TO FEATURE SERVICE

Babson Sees Stampede of Orders This Fall; Car Makers' Comment

NEW YORK, Sept. 11.—Roger W. Babson, the well-known economist, who predicted the beginning of the present business recession last fall with unerring accuracy, today warned that "a stampede of orders and congestion of freight in certain lines and sections" is a definite probability during the coming fall season.

Mr. Babson based his statement on the fact that during the past year consumption generally has fallen off about 10 per cent., while production has dropped 20 per cent. (in the automotive field it has been nearer 30), and that transportation of goods has decreased 30 per cent.

"This means," said Mr. Babson that the inventories of manufacturers, jobbers and retailers are becoming abnormally low.

"If consumption, production and transportation had fallen off about the same percentage, there might be no logical reason for improving business this fall. Under the existing circumstances, however, it is very possible that there may soon be a stampede of orders and congestion of freight in certain lines and sections.

"I am making no forecast as to 1931, which may be an average quiet and uneventful year, but I certainly am optimistic regarding this fall. It is just as evident today that business is now bound to improve as it was evident a year ago that the high pace of early 1929 could not be kept up."

Following up this statement, Mr. Babson suggests that the best methods of developing the business upturn are to be found in reduction of overhead, giving better value, meaning an improved product, an increase in research work and greater advertising expenditures. Elaborating on his suggestion of reducing overhead, the economist emphasizes

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INVITATIONS MAILED FOR NATIONAL SHOWS IN NEW YORK, CHICAGO

New York, Sept. 11.—Invitations accompanied by application blanks for space drawing were sent out this week for the 31st annual National Automobile Shows. The New York exhibition will be held January 3 to 10 in Grand Central Palace, and the Chicago event in the Coliseum, January 24 to 31.

Applications for the first allotment will close September 27, and it is quite improbable that any space will remain unoccupied after that date, especially in Chicago, owing to the fact that the North Hall Gallery will not be available this year. As usual, the show is to be under the auspices of the National Automobile Chamber of Commerce, Inc., and under the personal management of S. A. Miles.

At Grand Central Palace, the main floor and mezzanine, as is customary, will be occupied by complete passenger cars. The third floor will contain automobiles, commercial vehicles and accessories, and the fourth floor will be devoted to accessories and the shop equipment section, the latter to be con-

WHITE ANNOUNCES SIX NEW TRUCK CHASSIS

Cleveland, Sept. 11.—The White Motor Company announced today that it is introducing six new four-cylinder truck chassis, designed to meet the most exacting modern traffic conditions.

New models are designated as 160, 161 and 162, 210, 211 and 212. They are recommended by the company for use in the delivery field, including laundries, retail stores, florists, fast express, contracting work, coal delivery and light road construction operations.

Additions of these to the former model of White give the company complete coverage in the light and heavy bus and truck field.

MORELAND TRUCK GETS $500,000 SOVIET ORDER

Los Angeles, Sept. 11.—One of the biggest motor truck export transactions ever negotiated has been completed between the Russian government and the Moreland Motor Truck Company of Los Angeles. The deal involves more than $500,000 and is the forerunner of orders that will total $2,000,000 worth of trucks and parts.

The deal follows a year and a half of negotiations between the truck plant and the Amtorg Trading Company, purchasing department of the Russian government. Eight months ago two Moreland sample trucks were shipped to the Soviet Union for demonstration purposes. This led to a worldwide investigation of six-wheel motor equipment by the Russian government.

The initial order includes 100 six-wheel, four-wheel drive, motor trucks. The entire consignment and practically all subsequent deliveries will consist of heavy-duty, six-wheel units.

REEVES STRESSES SHOP WORK IN TALK BEFORE A. S. A. GROUP

N. A. C. C. Manager Advises the Use of Advertising to Obtain Maintenance Work; Specialization Increases

NEW YORK, Sept. 11.—Advertising and selling service, with the most capable executives in charge, are listed for the future by wise manufacturers and dealers, according to Alfred Reeves, general manager, National Automobile Chamber of Commerce, who addressed the Automotive Service Association of New York at its meeting in the Park Central Hotel tonight.

"It wasn't so long ago that advertising service was considered a confession of weakness, but today it is recognized that a piece of machinery must have care in order to furnish its full value in the form of troubleless transportation.

"This year, in particular, with people running their cars longer we find the service stations active and the motorist recognizing the value of a well equipped and well managed shop to care for his vehicle. The executives among the manufacturers and among the dealers are taking a greater interest in service than ever before, and are looking for men of executive ability properly trained in service work to handle that important end of our motor industry.

"Too many motorists have declined to buy the same make of car a second time because of poor service. It isn't free service that the average American wants, but careful service that will make unnecessary a return of the car to the shop.

"Advertising has impressed, and will continue to impress, the motorist with the importance of periodical inspection of his car, and the improved service rendered is going to make it possible to sell customers at the back door of the salesroom as well as at the front door," continued Mr. Reeves.

"More and more cars are being sold and kept sold on service.

"Time was when we bought a car on its mechanical features. We

(Continued on Page 2)

HIGHER RATES ON PERSONAL LIABILITY INSURANCE OPPOSED

Boston, Mass., Sept. 11.—More than 12,000 signatures of voters, protesting the proposed increase in automobile personal liability insurance rates were filed at the public hearing in the State House. They were gathered by Samuel G. Thorner a candidate for the governor's council, in his own district, with the co-operation of 100 volunteer workers.

Predictions have been made, however, that the proposed new rates will prevail, the power to promulgate them resting entirely with the insurance commissioner, who announced them. This, in spite of the united stand taken against them by all classes of car owners, truck owners, many non-owners, and an array of public officials. A strong effort is being made to have the demerit system, along the lines of the Connecticut system, adopted in place of the zoning system now in vogue here. Gov. Allen publicly announced himself in favor of it and the weight of the Boston city administration, represented by Corporation Counsel Samuel Silverman at the hearings, is being thrown toward that method. The insurance

(Continued on page 4)

General Motors Reports Increase in Stockholders

NEW YORK, Sept. 11.—The total number of General Motors common and preferred stockholders for the third quarter of 1930 was 249,175, compared with 243,428 for the second quarter and with 240,483 for the first quarter.

There were 229,531 holders of common stock and the balance of 19,644 represents holders of preferred and debenture stocks. These figures compare with 221,333 common stockholders and 22,095 preferred for the second quarter, and further with 218,392 common and 22,091 preferred for the first quarter.

The total number of stockholders of both classes by quarters since 1917 follows:—

Year	First Quarter	Second Quarter	Third Quarter	Fourth Quarter
1917	1,927	2,525	2,669	2,920
1918	3,918	3,737	3,615	4,739
1919	8,012	12,523	12,358	18,214
1920	24,143	26,136	31,029	36,894
1921	49,035	59,059	65,324	66,837
1922	70,504	72,665	71,331	65,665
1923	67,115	67,417	68,281	68,063
1924	70,009	71,382	69,423	66,097
1925	60,453	60,414	58,118	50,917
1926	54,851	53,097	47,805	50,369
1927	56,520	57,595	57,190	66,209
1928	72,986	70,399	71,682	71,185
1929	105,363	125,165	140,113	198,600
1930	240,483	243,428	*249,175	....

*Preferred stockholders of record July 7, 1930, and common stockholders of record August 16, 1930.

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August Truck Sales Drop Less Than Passenger Cars

NEW YORK, Sept. 11.—On the basis of new car registration returns from the first four states to report August sales, the retail sales of new cars in that month fell to about the lowest point this year.

The total registrations in the four states—Illinois, Delaware, Utah, North Dakota—was 13,615 for August, as compared with 28,195 in the corresponding period of last year, a drop of 51 per cent., and comparing with 19,616 in July, 1930, a loss of 30 per cent. If sales in the remaining states show a corresponding decline, the total for the month will be around the 180,000 that was shown in January, the lowest month for the year thus far.

Truck registrations in these same states for August amounted to 1,679, as against 3,209 in the corresponding month last year, a loss of 47 per cent., and comparing with 2,314 in the preceding months, a decline of 29 per cent. It will be noted that in both cases the falling off in trucks was slightly less than of passenger cars.

Following are the August registration returns from the four states, as compared with last year and the preceding month:—

	August, 1930	August, 1929	July, 1930
PASSENGER CARS			
Illinois	12,113	24,706	16,883
Delaware	620	832	639
North Dakota	452	1,293	1,140
Utah	430	1,364	954
Totals	13,615	28,195	19,616
COMMERCIAL CARS			
Illinois	1,300	2,393	1,821
North Dakota	187	438	185
Utah	107	256	196
Delaware	85	122	111
Totals	1,679	3,209	2,314

Reeves Urges All Dealers To Feature Service Work

(Continued From Page 1)

picked the one that had more things than its competitors that appealed to us. The ladies did not know much about them in those days and were willing to leave the selection to the men. When women began driving in the front seat instead of the back they came to the same conclusion that we men had already reached, that the kind of service we could get in our particular locality was the real thing to decide which make of car we wanted.

"Motorists used to do a good deal of their own repairing and adjusting," said the chamber manager. "This was partly because they liked to tinker, like the men who made their own radios, but principally because they couldn't get good work done in the service stations and did not trust them.

"Now as with radios the novelty is worn off, and they can buy better work cheaper than they can do it themselves. No longer do they like the bother nor the getting dirty, and they want everything done for them, even the simple chores, such as washing and lubricating, that they are capable of doing themselves.

"Bakeries have made the housewives forget how to make bread. Super service stations are making motorists forget how to do everything but drive.

"Singularly enough, the better and more reliable cars have become, the more owners are spending per car for service. The explanation is that higher standards have been set for performance and appearance.

"No longer do they run cars to a standstill before seeking service. Now they will not tolerate noisiness nor shabbiness. They are shamed of rattles and lack of shine. Their car must look as good and act as good as their neighbor's—all of which has made the huge market you have today for service, and one that is much greater than it would have been if dependent solely upon the increased number of cars in use.

"The worst thing about service in the beginning was that it was something we gave because we had to, rather than because we wanted to," Mr. Reeves declared. "The dealer did what he did more in the interest of the next car sale than anything else. Few thought that service could be rendered at a profit.

"Gradually the idea penetrated that perhaps we had better make the best of this necessary evil—service—and the first really scientific study of it began. The factories saw the necessity of helping the dealers reduce their service costs and keep their customers happy, and the factory service department became an important one.

"For ten years our chamber held meetings of the factory service managers, where they exchanged experiences and worked out plans for their own and their dealers' service departments to do a better job, and thus there were worked out the new prevalent practices of standardized repairs, flat-rate charges for service, piece-work payment of mechanics, parts stock keeping, proper tooling, etc.

"One trend that is definitely recognizable is that toward increased specialization. This does not mean necessarily the splitting up of service into many separate establishments, but it does mean that eventually no one organization will undertake more different kinds of service than it can satisfactorily and profitably handle. There will be no market for the 'just-get-by' service, except under emergency conditions in the 'sticks.'

"There will probably be more 'one-stop' stations, but fewer one-man shops," as the speaker tersely put it. "We will not expect the same man to bump out fenders and adjust carburetors and do both equally well. Men will be trained and departments will be properly equipped for specific operations on certain car units.

"There may be fewer service stations, but better and larger ones. They may not be in every hamlet nor every few blocks on the highways, except such as deal only in the more frequently required services, but the public is fast being educated to go a little farther for a better job.

"And service will be sold and advertised," declared Mr. Reeves. "Every motorist today knows that the best car will sooner or later need service. When he is buying a new car he is already thinking where to go when in trouble—and the smart dealers today are showing him then and there. They invite him, even while a prospect, to go out and see their splendidly equipped service stations which they well realize are a great sales asset.

"So service is being advertised. And it is being offered more and more as trouble prevention, and not merely trouble correction. Inspections and adjustments bulk much larger than repairs in service station revenue these days. Seasonal advertising is becoming common, calling attention to things to have done to prepare for the winter, or the spring, or the tour. And the motorist has caught the point of all this and is having bolts tightened before things begin to drop off. He has stopped waiting until the car will not run before phoning for the tow wagon. He is driving in as soon ah he hears a strange squeak.

"You brought about this change in the car owner's habits and you did him a good turn—as well as yourselves," Mr. Reeves told the service men.

"Wise shops will do more to keep busy the year round. They will advertise and sell by mail and personal solicitation in their slack times, special rates for combination services—club breakfast idea. They have learned from the oil companies that it is better to charge less and sell more during the bad driving weather. It carries the overhead and keeps the working force intact for the spring rush.

"Owners of commercial fleets are live prospects for those who have service stations able to handle their work. Few fleet owners have really good maintenance departments and many of them will give up doing their own work when they can get it done better and cheaper outside. The American Telephone and Telegraph Company, owning the largest fleet in the world, but scattered in units all over the country, has discontinued doing its own repairs."

Mr. Reeves then drew attention to the extending practice of fleet owners to make yearly contracts with maintenance shops to keep fleets in good running order. "Some," he said, "figure that it costs them less than to buy jobs as they need them and others that if it does cost a little more it is insurance against loss of use of their equipment and unanticipated maintenance expense. It helps in budgeting their expenses to know just what amount to set aside for maintenance.

"In these days of better service the value of systematic inspection, first recognized by fleet owners, is likewise now appealing to owners of private passenger cars, and the number is constantly growing of those who have contracted the habit of having their cars lubricated and inspected at regular intervals. It is highly attractive service to sell because it keeps the owner comfortable about his car's condition and, being more or less regular, helps to take the peaks and hollows out of the shop's business curve.

"While this 'stitch-in-time' service may do away with some income from larger overhauls, the aggregate of what the owner will spend will be more and worth it to him because of the increased satisfaction he will get from his car's performance," continued the representative of the car and truck manufacturers.

"Getting motorists educated to having periodical inspections is giving service stations the same opportunity enjoyed by stores—that of having customers come in to see their display of wares. The service station of the future will take greater advantage of this by taking down the 'Keep out' signs and inviting customers in to the shop to see the facilities for doing work thoroughly and speedily.

"There will be a comfortable attractive waiting room, with showcases in which are displayed the numerous accessories that go to complete the car's equipment and salesmen on hand to demonstrate them.

"But the place where salesmanship will be most in evidence will be where the owner drives in. There will be no waiting to receive attention. He will be greeted immediately and graciously. After he has told what he thinks he wants his car will be examined, and if he needs more than he realized, he will be told about the further work.

"The service man has been traditionally the other way, selling us only what we insisted on having and not acting over-willing to do that. Usually he has not been a salesman at all, but a mechanic called away from his work, and plainly annoyed by the interruption."

Mr. Reeves then invited a look within the shop of this service station of the future. "We will find," said he, "much more equipment and particularly more tools for special purposes. We will see machinery doing most of the things formerly done by hand. We will find similar principles applied to performing repairs and service operations that we have associated only with building new cars—in other words, production methods.

"Just as fast as volume of demand for any kind of service justifies it equipment is being developed and installed to do the work better, quicker and cheaper, making it possible to reduce the charge for the job and hence easier to sell more jobs, and that is how the service business will grow. The same pride that makes people keep their shoes shined and their clothes pressed will make them keep their cars in the pink of condition when they can afford to.

"Generally speaking, service has now overcome what was formerly its greatest handicap—lack of public confidence," concluded Mr. Reeves. "Given a reputation for fair dealing and intelligent management that keeps up with advances in methods and practices, and we need have no fear for the future of the service business."

HEXCEL

. . . has met the specifications of the American Austin and will fill their entire radiator requirements.

. . . insuring guaranteed performance and freedom from radiator troubles.

HEXCEL RADIATOR CO.
Milwaukee, Wisconsin

RADIATORS

AUBURN GIVES FINANCING CONTRACT TO C. I. T.

New York, Sept. 11.—The Auburn Automobile Company has awarded Commercial Investment Trust Corporation, through its operating subsidiaries, an exclusive contract, under which C. I. T. will be designated, as the official wholesale and retail financing organization for Auburn and Cord distributors and dealers throughout the United States and Canada.

The domestic contract follows arrangements entered into a year ago for C. I. T. to supply the wholesale and retail financing requirements of Auburn and Cord distributors and dealers in overseas countries throughout the world.

EMPLOYMENT IN OHIO DECREASES IN AUGUST

Columbus, O., Sept. 11 (UTPS).—The Bureau of Business Research of Ohio State University in a bulletin covering employment in various industries in Ohio during August shows that employment in the automobile and automotive parts industries in August was 7 per cent. less than in July, which contrasts sharply with the usual condition of relative stability in employment between July and August. The actual volume of employment in the industry was 27 per cent. less than in August last year. Average employment in the industry during the first eight months of the year was 34 per cent. less than in the same period in 1929.

SPARKS from DETROIT

Racers and Racing Rules

• • •

The Champion Rests

• • •

Modern Schoolgirls

By Chris Sinsabaugh

EDDIE EDENBURN, attached to the industry as head of the local and state dealers' associations and representing the contest board of the American Automobile Association, had a visitor yesterday—Harry Hartz of Los Angeles, owner of the Hartz-Miller front drive with which Billy Arnold won the A. A. A. title of champion race driver of 1930. Hartz was on his way back to California, well satisfied with the summer's campaign. Naturally the two went into a huddle and out of the conference came the opinion that 1931 is going to be a good year for racing.

In the opinion of these experts, the change in the A. A. A. rules which will permit racing cars to be equipped with four valves if desired, a ndto use a carbureter for each pair of cylinders will be a great stimulant to racing. The veteran Hartz thinks these changes ought to produce a broken record at Indianapolis next Decoration Day—nothing sensational maybe, but the speed ought to be at least a couple of miles faster for the five hundred in the 1931 event.

Then, too, the changes will bring in more foreign entries, concerns which stayed out this year because of these restrictions. Bentley of England, Bugatti of France and Alfa-Romeo of Italy are mentioned as good prospects.

* * *

THE champion driver, Billy Arnold, will winter on the Coast. He goes there with his pockets well lined, for his winnings for the year totaled well over $60,000. The car he campaigned was one built under the direction of Hartz, who financed the team. This maybe, is not so much as the drivers of ten or fifteen years ago used to pull down, but then, it must be remembered, there are not so many speedways or so many events as there used to be. Racing nowadays is confined, so far as speedways go, to Indianapolis and Altoona. However, there are more major dirt track events than there used to be.

* * *

WHETHER there will be any more manufacturers to back the racing game next year is problematical, although there are rumors that a couple of makers are thinking seriously of building something. Duesenberg, it is taken for granted, will continue to support racing, which gave him his start in the industry. Harry Miller, the clever engineer out on the Pacific Coast, stands ready, they say, to build speed race cars for ambitious drivers and it is expected that he will have something new to offer.

* * *

THIS Harry Hartz has helped make racing history for the past fifteen or sixteen years. As a boy he won the pushmobile championship of the Pacific Coast. Then came the next step, the cyclecar. Harry and the Los Angeles kids had a brainstorm over these miniature cars and built a flock of them, each fitted with motorcycle engines. They were classy rigs and of course there had to be a championship, and of course Harry won that title.

With these feathers in his cap he stepped out and the next thing we know he was mechanic for Eddie Hearne the year that veteran won the driving championship—1919. This experience qualified him as a driver and from that time on the name of Harry Hartz figured prominently in racing summaries. He was third in the title hunt in 1922, third in 1924 and in 1927 he won the championship, only to have Lady Luck turn against him at the peak of his driving career. At Salem, N. H., that year Harry crashed and that wound him up as a driver.

Speed was in his blood, though, and so this year, not being able to drive himself, he picked Billy Arnold for his pilot and went after the big money. Arnold won at Indianapolis, it will be remembered, something his boss never could do. Probably no other driver had victory slip through his fingers in the Hoosier classic as did Harry. And there never was a more consistent performer in that great race. Out of the six times he competed he was second three times and fourth another. Some record.

* * *

RICHARD BACON, known everywhere in Detroit as Cram's Automotive Reports representative, is the proud father of an 8-year-old daughter, Ann, who has demonstrated that she is a most up-to-date miss. Ann vacationed in Minneapolis, but had to be back for school this week. So, unattended she stepped into an airplane at Minneapolis and flew to Detroit, arriving safely and in time to begin her fall schooling.

MERCHANDISING ACCESSORIES EQUIPMENT

WHOLESALE

DISTRIBUTION SHOP EQUIPMENT REPLACEMENTS

BIG CHANGE IN WAREHOUSING SYSTEM OF DISTRIBUTION

NEWARK, N. J., Sept. 11.—**Warehousing as a business has undergone a great change in the past decade, as evidenced in operations in the new structure just opened by Lehigh Warehouse and Transportation Company here.**

Instead of a more or less sluggish activity in which various articles of manufacture formerly were placed in warehouse in "dead" storage against a possible emergency demand, the new type of warehouse maintains an activity which rarely keeps specific goods "in stock" for as long as a month. The rule, in fact, is a complete turnover in use of the warehousing space in the Frelinghuysen Avenue plant several times each month. Often, the "storage" of goods in the warehouse is the matter only of a few hours, especially goods used in automotive distribution.

The new idea in warehousing, as far as Newark is concerned, has solved for a number of national distributors what was for years a sore spot in business, a hindrance to advancement in distribution of products. As things in life generally speeded up throughout the country, with the growth of the automobile, aviation and communication, manufacturers found that deliveries of their products by comparison lagged. To establish individual distributing stations in various metropolitan centers such as Newark proved, for many, too costly a proposition. Not only that, but space on or near major cross-country transportation lines became limited.

The modern warehouse, as exemplified by the Lehigh, to use the description given by Albert B. Drake, secretary-treasurer of the company, "does everything for the manufacturer but make and sell the goods. In other words, we serve as a middleman for the national distributor."

The territory served by the plant comprises an area thirty miles in radius with Newark as the hub. Goods are brought there in carload lots via the Lehigh Valley Railroad, a ten-car siding of which runs directly to an unloading platform extending the full length of the east side of the building. The company's trucks deliver goods in smaller quantities or otherwise release goods on orders from the manufacturers.

Some idea of the extent of operations at the Lehigh warehouse may be gleaned from Mr. Drake's statement that about 3,000 tons of materials are handled in an average month, inbound and outbound.

The Lehigh Warehouse and Transportation Company was organized in 1919. Nathaniel Drake is president, and D. B. Crotsley vice-president, while Albert B. Drake is operating executive. The location is adjacent to the Lehigh and Pennsylvania railroads, where those transit lines come together for freight distribution at Poinier Street. The company acquired a 12,000 square foot mill constructed building surrounded by an abundance of vacant property.

In 1921 it became necessary to build a structure more than doubling the warehouse capacity. Then the Fletcher-Thompson Company, engineers, was called in to plan an extensive building program. In 1925 the first of the new units was built of reinforced concrete, seven stories in height, and adjacent to the old plant. This unit was designed with an idea of further additions. The structure just finished by Salmon-Scrimshaw Company, extending the construction to Poinier Street, incidentally supplying the city with its first rounded-corner building, to match a turn in the highway as it is being improved to meet the increased traffic on the shore route, rises eight stories. Altogether the warehousing plant now has floor space approximating 250,000 square feet.

An interesting angle in the development of the warehousing scheme arose when local dispensers of large quantities of nationally-distributed articles sought show space and their own service stations close to the point of distribution. Philip H. Harrison & Co., distributors of General Electric refrigerators; Halsey Supply Company, Spartan radio distribuor, and the Goodrich Tire and Rubber Company, are among these tenant-clients of the warehouse concern. The radio distributors have an unusual curved-front showroom for their wares, with executive offices attached.

GREBE HAS BUSINESS OF HIS OWN IN OREGON

Portland, Ore., Sept. 11.—W. H. Grebe, for more than ten years manager of the Colyear Motor Sales Company, Portland, Salem and Medford, has opened business as a manufacturers' representative under the name of the Walter H. Grebe Company.

Grebe will handle a line of automotive products similar to that which he has customarily sold, and operate through jobbers, maintaining a stock of parts in Portland. Among the lines already secured are Arrow Head pistons and pins, Morpower piston rings, Aztec brake lining and KEM Manufacturing Company ignition parts, oil pump, igniter gears and speedometer cables.

The Grebe Company will cover Oregon, Washington and Idaho, with Portland as headquarters.

Editor's Column

THE possibility that unjustified expense reduction and retrenchment may sacrifice the progress achieved in more scientific merchandising in recent years has commanded attention in retail circles. There appears to be a growing realization that danger lurks in the tendency "to throw overboard," to cut down costs of operation.

Just as many retailers permitted expenses to get out of hand during the last two years, the pendulum was said be now swinging too far in the other direction. The result may be, it was asserted, that many dealers may be carried away by an expense reduction mania that will seriously curtail or even eliminate the benefits of the comparatively recent adjuncts to retailing, including the raising of personnel standards and training for better selling, improved merchandising procedure, and the stressing of merchandise quality.

All of these activities result in substantial expense to the store. As one merchandising executive said: "They may have been overdone in some cases, abused in others, but essentially and fundamentally they are right, and cannot be abandoned without tremendous loss."

The view was emphasized that "those who at one fell swoop discard all they have gained in the last ten years are going to find themselves inadequately organized and insufficiently staffed when the turn in business comes, as it is inevitable that it will. Whereas, those who retain the fundamental structure and effectiveness of their service will find in a period of business revival that they are fit to go ahead of their competitors."

The consensus of views stressed the importance of a sane policy of expense reduction, based on adequate reasons in each instance, and not expediency, in which the saving of a few obvious dollars will eventually result in the hidden loss of a good many more in unbalanced merchandise, less effective selling and in consumer dissatisfaction and loss of good will. Chipping away the fuondation was held not to be good business under conditions.

Fundamentally, the problem of sane expense reduction was one of good management, according to another retail executive. He saw retrenchment among retailers today as a fad and in some cases a basis for boasting that so much and so much has been saved. These "savings" he regarded as questionable in many cases and have been made against the better judgment of some executive in the organizations affected, who have realized their fallacy.

Under the heading of scientific merchandising procedure, the view was general that every effort should be put forth to maintain unit stock control, price lining and better buying along price lines. Anything saved in the abandonment or curtailment of these things, it was contended, will result in losses infinitely greater, the more so, because they may not be evident on the surface.

Not so general, however, was the feeling regarding the retaining of stylists. These recent additions to the retail world were said, in many cases, to have hardly fulfilled the glowing expectations made at their advent. In fact, they have added costly burdens in the form of costly merchandise mistakes, and many stores have already dropped them. It was also a serious mistake to replace good buyers with cheap ones. The saving in weekly salary may cost hundreds of times that amount in markdowns.

August Jobbing Business In Seattle on Even Trend

SEATTLE, Wash., Sept. 11.—Although August did not set any high marks in the jobber business, it did not experience the usual slump, and held to more even business. With the arrival of September there is a distinctly better undertone and good fall business seems certain.

General business is in more optimistic mood than at any time this year. "Outside" money comes in from crops now being sold. Apple and potato crops are 20 per cent. greater in yield in Washington and Idaho than a year ago, and prices are up about 30 per cent. This means a lot for the farmers. The salmon catch this year in Northwest waters is wonderful. Some fishermen are reported making year's wages in just a few weeks. One boat came in after a few days out with $10,000 worth of fish, to divide among a crew of a half dozen.

Alaska travel has been good, and business from Alaska automotive dealers is reported very good the past month by E. C. Walling, sales manager for Ballou & Wright.

Equipment for northwest shops is in strong demand, and the wise shopman is realizing that repair work will reach new peaks this fall, is the opinion of W. L. Strahl, manager of the same firm.

M. E. Arkills of Liquod Gold Lubricator Company, reports his firm getting well under headway the past month, with sales increasing.

August was the equal of July for R. C. Bosselman Company, Mr. Bosselman reported.

Wallace Cathcart of Triangle Automotive Parts reports latter part of month showing good gains.

Well ahead of the preceding month, is Armature Electric Works report.

J. A. Robblee & Co. had a fair month. This firm is making important office renovations, making room for new equipment.

Page Brown & Co. reports August equal to July, which was a good month.

Hoge Piston and Ring Company continues to be a busy spot. P. J. Bradley & Sons reports sales slightly off in tires, but service excellent, making the month good.

R. L. Menasco, manager of Lelin Sales Company, is expanding and adding new lines, business having been expanding in like manner.

T. F. Romaine, magneto and generator jobber and service, has removed to larger quarters at 1417 Broadway. Very fair August business, is his report.

Bridgeman Parts Company report a fair month.

Business held steady during August and the trade is pleased with the outlook. Repair shops, both dealer and independent, look to continued gains the next two months.

MECHANICS SUPPLY NEW BRUBAKER WAREHOUSE

Seattle, Wash., Sept. 11.—The Mechanics Supply Corporation has been appointed manufacturer's representative for the W. L. Brubaker and Brothers Company, in Washington, Oregon, California, British Columbia, Idaho, Utah, Nevada and western Montana.

The Mechanics Supply Corporation will carry warehouse stocks of the Brubaker line, both in Seattle and San Francisco, M. Gable being in charge in the former city, and E. P. Denham in San Francisco.

Complete stocks will be carried in both centers.

F. J. SLYMM HEADS SALES OF WORLD BESTOS CORP.

Paterson, N. J., Sept. 11.—Announcement was made here today of the resignation of Russell N. Kirk as sales manager of the World Bestos Corporation of this city. F. J. Slymm has been appointed to the position.

CLASSIFIED ADVERTISEMENTS IN THE AUTOMOTIVE DAILY NEWS BRING RESULTS

Studebaker's profitable franchise made more valuable by *the most powerful Truck ever sold at so low a price* $695

ADDED to the definite "edge" which Studebaker dealers enjoy today in the passenger car field, another rich, new market of *more than* $672,000,000 *annually* is now thrown open to them with very little increase in overhead expense.

Motor truck sales have been called the "blacklog of the automotive industry" because of the constant, steady profits they produce. The new Studebaker trucks already occupy a commanding position in the 1½ and 2-ton fields. They offer profit possibilities which make the franchise of "America's Friendliest Factory" a greater asset than ever before.

Any motor car merchant who has followed closely the recent swift changes in the industry knows the great and growing strength of Studebaker's position. Consider—Three great *seasoned* Eights, plus Free Wheeling, the exclusive Studebaker innovation which stirred the motor world by its thrill and thrift. A seventy-horsepower Studebaker Six at $795—the most powerful car in its price field, and the lowest priced in Studebaker history.

World Champion performance, unchallenged after two years, enhanced by greater power, speed and stamina than ever.

A name and repute for fair dealing which goes back 78 years.

There is the picture. Studebaker dealers find it a pleasant one . . . and exceedingly profitable. I will be glad to fill in the details and tell you whether or not your territory is available, if you write to me.

PAUL G. HOFFMAN
Vice-President
Studebaker Corporation of America
South Bend, Indiana

Automotive Daily News

"Of, By and For the Entire Automotive Industry"

Published Every Day Except Sunday and Monday by
AUTOMOTIVE DAILY NEWS PUBLISHING CORPORATION,
350 Hudson St., New York, N. Y.
O. J. Elder, President. H. A. Tarantous, Vice-President. Alexander Johnston, Secretary.

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Member A. B. C.

FRIDAY, SEPTEMBER 12, 1930

ADVERTISING AND BUSINESS HEADQUARTERS

2716 Graybar Bldg., New York, N. Y. Telephone LEXington 6388
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George M. Slocum, Manager Detroit Bureau, 427-8 Fisher Building, Detroit, Mich., phone Empire 3500; Willard R. Cotton, Western Manager, 333 North Michigan Ave., Chicago, Ill., phone Central 5936; Metz B. Hayes, New England Manager, Little Building, Boston, Mass.; Blanchard, Nichols & Coleman, American National Bank Building, San Francisco, Cal.; Lincoln Building, Los Angeles, Cal.; 1037 Henry Building, Seattle, Wash. Address ALL advertising and business correspondence to 2716 Graybar Building, New York City.

EDITORIAL DEPARTMENT

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Detroit Bureau—C. G. Sinsabaugh, Editor, 427-8 Fisher Building, Detroit, Mich., phone Empire 3500. Contributing Editor, John C. Wetmore. A. Benson Carleton, Technical Editor.

Mail subscriptions to CIRCULATION DEPARTMENT—C. H. Wilson, Manager.

1926 Broadway, New York, N. Y. Telephone TRAfalgar 4500
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Henry Ford on Revival

ACCORDING to a wireless interview with Henry Ford aboard the Bremen en route for Europe: "Great disappointment will come to those who await the return of good business immediately without special effort on their part. I insist that a resumption of past standards and methods in industry will bring no change in conditions. Our only hope for better times lies in a newer and better grade of production at lower cost. I am certain that manufacturers who follow this principle will not be concerned whether times are good or bad. New demands must be created by offering newer and better articles."

Mr. Ford is quite right in believing that nothing stands still. Manufacturers who tried to bring about a revival of business by standing pat on their 1930 offerings would be sadly disillusioned before they had gone very far.

Throughout its history the automotive industry has stood for progress and development. We do not know of another industry that has devoted so much effort and money to improving its product and decreasing its prices. Today, in spite of business depression, the automotive dollar will purchase more than almost any other unit of currency, in proportion to the purchasing power of any given past year.

We do not believe that any automotive manufacturer of consequence is resting on his oars and hoping that business will come back automatically. During the current year we have had more announcements of important improvements and innovations than in any similar period in recent history. We venture the prediction right now that in 1931 the automotive industry will be offering a better product and a greater dollar value than ever before, which is exactly what Mr. Ford suggests it must do to bring the hoped-for revival of business.

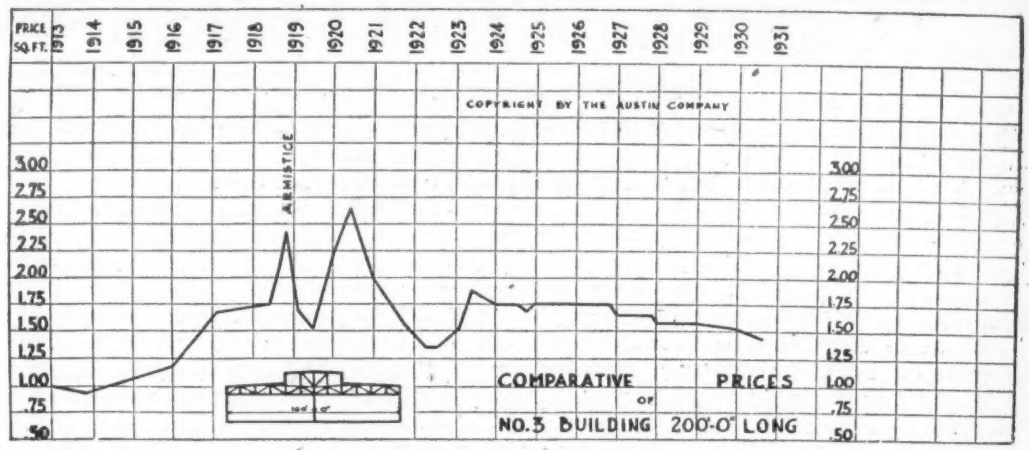
The Racing Laboratory

IT is interesting to note that the huge Napier engines, used in the Estelle V., unsuccessful British challenger for the Harsmworth motor boat speed trophy, have a useful life of just twenty hours. During that brief lifetime the engine must be torn down and overhauled after each three hours of racing service. The terrific strains of motor boat racing at the railway speeds that are now achieved rapidly ruin even the finest steel.

This condition calls renewed attention to the laboratory which racing supplies for testing design and materials. The strains and stresses of racing service, whether on land or sea or in the air, are many times multiplied over the wear engendered by ordinary service. Automotive engineers, observing the failures induced in racing, are able to apply the lessons to designs intended for use by the ordinary vehicle owner. To the average man, perhaps, racing, whether on the track, on water or in the air, may seem simply a sporting affair, but actually contests of this sort supply the engineers with observation opportunities that they could not get in any other way. In the automobile field, most of the early progress came as a result of lessons learned in building and driving racing cars. Engineers quickly learned that materials and designs that could stand up in the crucible of racing service could be trusted to meet the conditions of ordinary owner service.

On July 11, 1905 the first Glidden Tour left New York city for a 1,000-mile trip through New England. On July 22 the argonauts returned to the starting point, having completed the journey, which was a severe test of car effeciency in those days. A Pierce Great Arrow won that original tour and the driver was Percy P. Pierce, son of the George N. Pierce who built the car. Old timers will recall this historic event, in connection with the recent death of Earl Glidden, sponsor of those pioneer treks.

Industrial Building Costs at Low Level



Industrial building costs are the lowest in eight years, according to a survey of the Austin Company, Cleveland, O., engineers and builders. Except for a period in 1922 costs have not been so low since 1916.

All of the decline is due largely to falling prices of materials and greater efficiency of labor and construction equipment. Wage rates at 185 per cent. over the 1913 level continue at the peak for all time, while all building costs, including labor, are less than 40 per cent. over 1913.

A modern factory building, 200 feet long and 100 feet wide of steel and concrete construction can be erected in the average Mid-Western city for $1.40 a square foot against $1.87 in 1923, a high mark of $2.65 in 1920 and $1.00 in 1913. The decline in costs is resulting in a marked increase in inquiries from manufacturers contemplating new construction, according to Austin Company officials.

Ask Us to Tell You

In presenting this service department, The Automobile Daily News is actuated by the desire to help its readers solve their problems.

In some instances readers may desire information which will require an expenditure of money to secure, and in such cases we shall be glad to get the desired data at the least possible cost, or we shall inform our readers where they may obtain it most economically and expeditiously.

QUESTION: Will you please give me the standing, according to sales, of the following cars: Ford, Chevrolet, Oldsmobile, Hudson, Essex, Chrysler and Plymouth?

ELEANOR A. STONER,
Altoona, Pa.

ANSWER: In reply to your recent letter regarding the standing of various cars in relation to their sales, may we submit the following, taken in the order of their standing as among themselves: Ford, 1; Chevrolet, 2; Essex, 3; Chrysler, 4; Plymouth, 5; Oldsmobile, 6; Hudson, 7.

Their national sales standing, as compared with all other makes: Ford, 1; Chevrolet, 2; Essex, 5; Chrysler, 7; Plymouth, 8; Oldsmobile, 10; Hudson, 14.

INVITATIONS MAILED FOR NATIONAL SHOWS IN NEW YORK, CHICAGO

(Continued From Page 1)

fined to the trade exclusively until 5 p. m. daily.

At Chicago, the main floor of the Coliseum will house complete passenger cars, while the gallery and the second floor of the South Hall will have accessories and a shop equipment section. At both expositions a great majority of the accessory exhibitors are members of the Motor and Equipment Association.

DANA OF SPICER BUYS NEW FACTORY PROPERTY

Toledo, O., Sept. 11.—Charles A. Dana, president of the Spicer Manufacturing Company, has purchased the property of the Consolidated Pump & Ladder Company in West Toledo. This property adjoins the Spicer plant and includes three large factory buildings. The use to which the new buildings will be put has not been announced.

It is also revealed that the Spicer Company has started construction on a new plant that will put seven acres under roof on a site adjoining the property Mr. Dana has just purchased.

Gas Tax Boosters Band For New Onslaughts

New York, Sept. 11.—Approach of the legislative season apparently has stimulated agitation for increased gasoline tax rates in various states, reports to the American Petroleum Institute indicate.

Organized effort already has been made in at least six states to introduce in the next Legislature bills designed to increase the rate at least one cent per gallon.

Preliminary reports show higher gasoline taxes will be sought in these states:

State	Present Rate	Proposed Rate
Mississippi	5c	6c
Wisconsin	2c	4c
South Dakota...	4c	5c
Nebraska	4c	5c
New Jersey.....	2c	3c
Minnesota	3c	4c
Ohio	4c	5c
Louisiana	4c	6c

The proposed increase in New Jersey rests with the voters. Gov. Larson already has signed the bill, but it is linked with a proposed $100,000,000 bond issue which must be approved by voters of the state in November. Should a higher rate become effective in Ohio, it will represent another in a series of increases made by each successive legislature since the gasoline tax became a law.

VOTERS OPPOSE NEW INSURANCE CHARGES

(Continued From Page 1)

companies, on the other hand, are asking for even higher rates than those proposed, saying the 1931 figures are inadequate.

Representative Bernard Ginsberg of this city has filed a bill with the coming legislature providing for a demerit rating for automobile drivers to determine the premium to be paid upon their personal liability insurance. The measure provides for increasing the rate to be paid by operators involved in accidents or convicted of serious offenses against the motor vehicle laws.

WISCONSIN AXLE CO. STARTS PLANT ADDITION

Oshkosh, Wis., Sept. 11.—The Wisconsin Axle Company has started work on an addition to its machine plant. The building will be approximately 100x150 feet, and will adjoin theh present factory. It is to be of the saw-tooth roof type of construction and will be fireproof, having brick walls and concrete floors and roof. The addition is being made in anticipation of the need of additional floor space and equipment to take care of increased business of the company.

The officers of the company, which is a subsidiary of the Timken-Detroit Axle Company, are Walter F. Rockwell, vice-president and general manager; George T. Moore, vice-president and sales manager; A. H. Chatley, secretary and treasurer, and B. W. Keese, chief engineer.

COMING EVENTS

SEPTEMBER

22-26—**Chicago, Ill.** American Society of Mechanical Engineers Iron and Steel Division meeting.
22-26—**Chicago, Ill.** American Welding Society meeting.
22-26—**Niagara Falls, Ont.** American Gear Manufacturers Association semi-annual meeting.
22-26—**Chicago, Ill.** Society for Steel Treating meeting.
22-26—**Chicago, Ill.** American Society for Steel Treating meeting at Stevens Hotel.
29-Oct. 4—**Pittsburgh, Pa.** National Safety Council Annual Safety Congress.

OCTOBER

2-12—**Paris, France.** Automobile Salon.
6- 7—**Reading, Pa.** Pennsylvania Automotive Association Convention.
6- 8—**Tulsa, Okla.** American Society of Mechanical Engineers Petroleum meeting.
6-11—**Washington, D. C.** Sixth International Road Congress.
6-11—**Washington, D. C.** American Roadbuilders' Association Convention.
7- 8—**Detroit, Mich.** Society of Automotive Engineers production meeting at Book-Cadillac Hotel.
13-15—**French Lick Springs, Ind.** American Society of Mechanical Engineers general meeting.
14-15—**Syracuse, N. Y.** New York State Dealers' Association Convention.
16-25—**London, England.** Olympia Motor Show.
22-24—**Pittsburgh, Pa.** Society of Automotive Engineers transportation meeting.

NOVEMBER

4- 7—**Chicago, Ill.** National Tire Dealers' Association Convention.
6-16—**Berlin, Germany.** International Automobile Show.
8-15—**Chicago, Ill.** Automobile Salon at Drake Hotel.
10-14—**Cleveland, O.** Motor and Equipment Association Show.
13-23—**Paris, France.** Commercial Vehicle Salon.
17-21—**Cleveland, O.** National Standard Parts Association Show.
30-Dec. 6—**New York.** Automobile Salon at Hotel Commodore.

DECEMBER

6-17—**Brussels, Belgium.** Automobile Exhibition.

JANUARY

3-10—**New York.** National Automotive Show.
24-31—**Chicago, Ill.** National Automobile Show.

FEBRUARY

7-14—**Los Angeles, Cal.** Automobile Salon.
21-28—**San Francisco, Cal.** Automobile Salon.

Classified Advertising

Classified Rates 5c Per Word

MOTORCYCLES

FOR EXPORT — READY TO SHIP
1000 Automobiles, Trailers, Motorcycles, Outboard Motors.
The Largest Automotive House in U. S. A.
SIX STERN BROS., 1720 44th Av., N.Y.C. ATWater 3961

Babson Sees Stampede Of Orders in Fall Season

(Continued from Page 1)

that in the final analysis nothing is gained by throwing people out of work, but that turning employees' time to more productive effort is the real method of reducing expenses. He suggests getting executives out of the offices into selling or other special service that will yield results.

With regard to giving better value, Mr. Babson prefers improvement in product to price cutting. Wage earners can help, he suggests, by taking more interest in their work, but added that they should not be expected to carry the entire burden.

One of the strongest pleas made by the economist was for greater expenditures for advertising. Considering the three factors making for improvement in business conditions, Mr. Babson says: "Perhaps advertising is the most important factor of all. Certainly, advertising should go hand in hand with the other factors. Therefore, I wish to go on record as definitely advising the increase of advertising appropriations."

Executives of leading automotive companies do not believe that our industry will be the beneficiary of a "stampede of order" during the remainder of 1930. The quietest period of the normal year as far as automotive sales lies just ahead and executives see no particular reason why 1930 should be an exception to what amounts to a rule. Of course, Mr. Babson did not say that every industry would enjoy a sudden spurt in orders this fall, and it is felt here and in Detroit that the rest of the automotive year will follow what might be called a normal course in sales.

Following are expressions of opinion by leading automotive executives as to the probable trend in business during the remainder of 1930, as given in a copyrighted story released by the New York News Bureau Association of this city:—

SLOAN SEES PRESENT AS THE "LOWEST POINT"

Afred P. Soan, Jr., president of General Motors Corporation, says:

"Production for the second half of 1930 is bound to be smaller than for first half. Retail buying of automobile industry follows a seasonal trend. It is impossible to assume other than that the seasonal trend will prevail, and, as a matter of fact, does prevail irrespective of any change such as we are now experiencing in economic conditions.

"I think it is generally recognized that the industry has only just about now reached its lowest point. Even if it has done so, there is no tangible evidence or proof that the turning point has been reached. Naturally it is bound to be reflected in purchasing power, to say nothing of what I might term the psychological influence against purchasing.

"Therefore it is reasonable to assume that the second half cannot be expected to show any recovery as compared with the trend of the first half, and conditions are such that it is likely to follow the trend of general business and perhaps show a sub-normal seasonal change as ccompared with the first half."

FRANKLIN SEES IMPROVED MODELS AS TRADE AID

H. H. Franklin, president of H. H. Franklin Manufacturing Company, says: "Sales for the last half of 1930 should be helped some by introduction of new models and through a growing opinion that general business is improving. However, sales will be low compared to last year."

BROSSEAU SEES OUTPUT EQUAL TO FIRST HALF

A. J. Brosseau, president of Mack Trucks, Inc., says:

"I believe production during the last half of this year will be relatively as great as during the first six months.

"The small consumer demand this year does not mean curtailment in use of existing equipment. This is building up a pent-up demand for replacements and when the present equipment is traded in for new, old units will be of less value than has been the case in recent past and consequently will be less competitive with new cars.

"Next year's used car market should, therefore, be more truly in keeping with its name. This is true of passenger cars, but to a lesser degree in truck division, because trucks and buses are purchased for business rather than style reasons. The market for buses and trucks depends upon general volume of business being transacted and will respond quickly to improved business conditions."

KNUDSEN SEES OUTPUT AS BELOW CONSUMPTION

W. S. Knudsen, president of Chevrolet Division of General Motors Corporation, says:—

"The year of 1930 will show a production for the industry of approximately 4,000,000 cars and trucks. This is below the annual average for the past eight years and indicates that we are not replacing the consumption as measured by increased age and mileage."

Inasmuch as 2,219,546 units were produced in the first half of this year the balance left for the second half would be around 1,800,000 units on the basis of Mr. Knudsen's estimate, using Department of Commerce figures.

MARMON HEAD EXPECTS GOOD FALL BUSINESS

G. M. Williams, president of Marmon Motor Car Company, says: "Many manufacturers, distributors and dealers look for a volume of business in September and October that will be as great or greater than in any two months' period this year. Nevertheless, they feel that the improvement will be very gradual rather than any sudden upturn in sales.

"New car stocks in hands of dealers are not great in most cases and used car activity in recent months not only has provided additional funds for many dealers, but has created a far better feeling and attitude toward the future of the industry."

L. A. MILLER EXPECTS NO GAIN IN LAST HALF YEAR

L. A. Miller, president of Willys-Overland Company, says: "There is no indication that the last half of 1930 will show any improvement over the first half. As a matter of fact, there is every reason to expect less production notwithstanding the fact that general economic conditions might have improved.

"It is interesting to note that the final half of each year for the past eight years has shown a production smaller than the first half, due to the seasonal nature of the industry. The average decrease in second half has been 15 per cent. for eight-year period."

BOHANNON OPTIMISTIC ON LAST SIX MONTHS

J. A. Bohannon, president of Peerless Motor Car Corporation, coments more optimistically:—

"I feel rather optimistic than otherwise about balance of 1930. Fall is normally a good selling season. Merchants generally look forward to better business during the holidays. A more stabilized feeling always follows the unsettled conditions brought on by the vacation period."

CHRYSLER EXPORT HEADS SAIL ON AQUITANIA

New York, Sept. 11.—W. Ledyard Mitchell, chairman of the board of E. C. Morse, president of the Chrysler Export Corporation, sailed yesterday on the Aquitania for a brief tour in Europe.

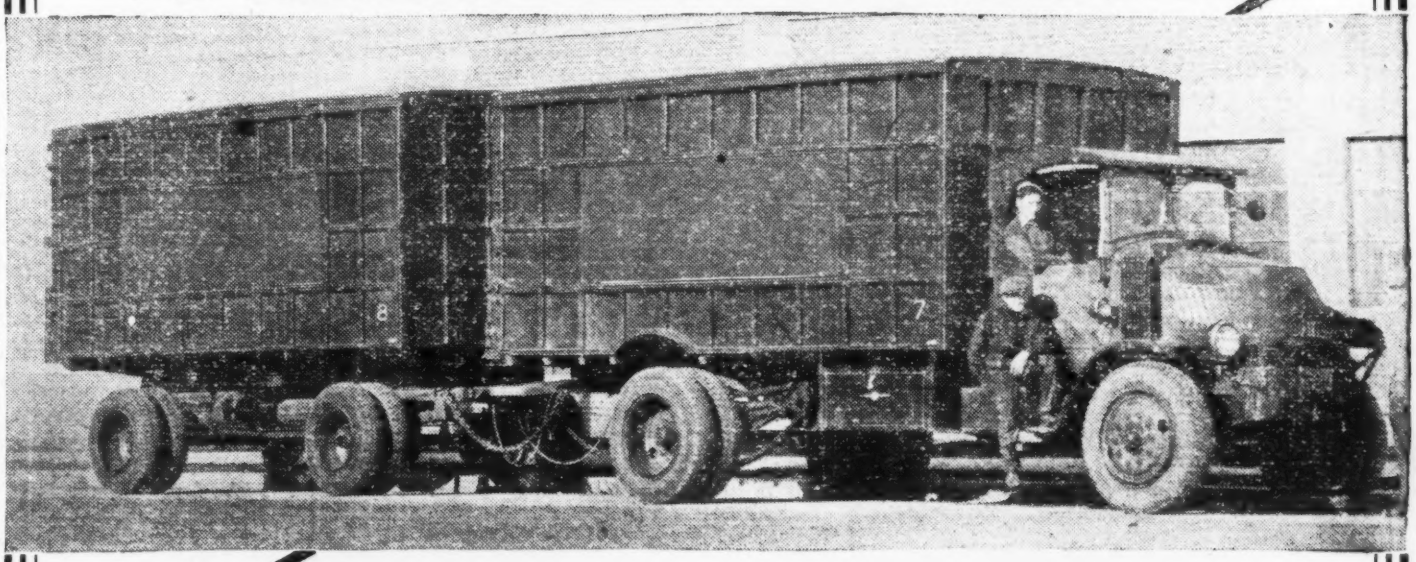
The export officials will first attend the Paris Salon and the London Olympia. In Paris they will address a meeting of Chrysler export distributors and dealers from England, the continent and northern Africa. They plan on returning to this country early in November.

R. C. TUCKER RETURNS TO FIRESTONE PLANT

Los Angeles, Sept. 11.—R. C. Tucker, vice-president and general sales manager of the Western Firestone organization, has returned to the Los Angeles factory after a two months' absence.

CLASSIFIED ADVERTISEMENTS IN THE AUTOMOTIVE DAILY NEWS BRING RESULTS

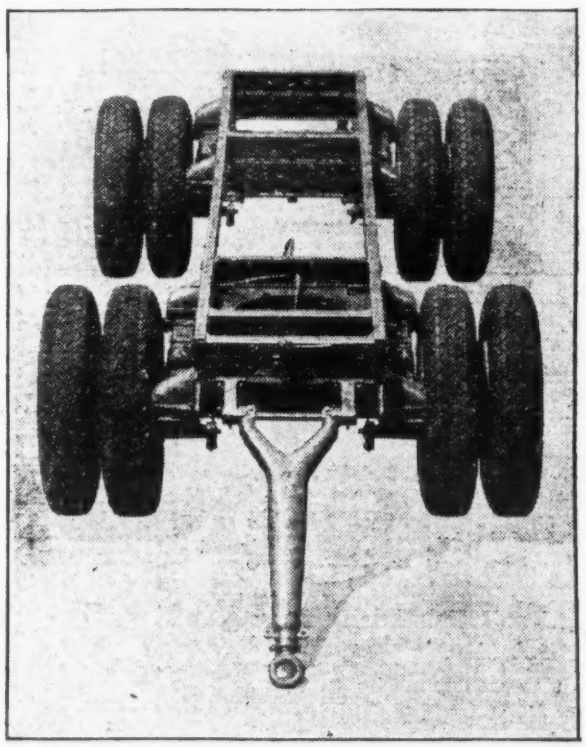
HIGHWAY TRANSPORTATION TURNS TO TRAILER-TRAIN ECONOMY



AND Mack QUALITY-BUILT UNITS

The day of the trailer train is here . . . ! Startling increases in trailer registrations show that operators everywhere are coming to a full realization of the economy of well-balanced tractor-trailer and truck and trailer units.

Mack Leadership again asserts itself in this modern highway hauling development . . . offering trailer trains completely Mack-built from truck bumper to trailer tail-light . . . tractors available in eight different models—from 5 to 20 tons capacity—with four- or six-cylinder engines . . . trailers with either four or six wheels—in capacities from 5 to 15 tons—of either reversible or non-reversible types.



Mack trailer-train units are an example of the extensive adaptability of the complete modern Mack line of highway transportation units. There may be a Mack Dealer Franchise open in your territory. Write for information.

MACK TRUCKS, INC.

25 Broadway New York, N. Y.

More than 100 Direct Mack Factory Branches operate under the titles of "MACK-INTERNATIONAL MOTOR TRUCK CORP.," "MACK MOTOR TRUCK CO.," or "MACK TRUCKS OF CANADA, LTD."

TRUCKS • BUSES : FIRE APPARATUS : LOCOMOTIVES

News of the Accessories and Parts Field

STANLEY MOVING CARTER PLANT TO NEW BRITAIN

New Britain, Conn., Sept. 11.—Papers of incorporation have been filed for the R. L. Carter Company, formerly of Phoenix, N. Y., which was bought out by the Stanley Works several months ago when that concern absorbed a number of plants. The Carter Company manufactures various types of electric tools. Most of the machinery has already been moved from Phoenix to New Britain.

CAL. REPAIR SHOP GROUP HOLDING SLOGAN CONTEST

San Francisco, Sept. 11 (UTPS).—The Repair Shop Owners' Association of California, in its campaign to attract public attention to its members, is gaining much favorable publicity through its slogan contest, the contest calling for a slogan of six words to be used as an emblem for the members of this association, the contest blanks procurable only from the garages and repair shops of the members.

CLARK

SPEEDING *the* PROGRESS *of the* WORLD

As progress depends on transportation—transportation requires high quality

AXLES

The automotive industry knows these are

CLARK AXLES

CLARK EQUIPMENT COMPANY
Buchanan Michigan

AXLES
Front & Rear
WHEELS
Single or Dual Tire
CAST STEEL HOUSINGS
TRANSMISSIONS

Plant Extension

Spartanburg, S. C., Sept. 11.—The Silver-X-Bearing Company of Newberry, S. C., rebabbitters of connecting rod and main automobile bearings, have moved their plant from Newberry, S. C., to 155 South Liberty St., Spartanburg, and opened for business on September 1, according to information received here. The Newberry concern has been in business in that city for a number of years and has established a flourishing trade. They are moving their plant to this city in order to be centrally located and be nearer a railroad center, it is understood.

Corry, Pa., Sept. 11.—Plans are under way to bring to this city two additional units of the Aero Supply Corporation. One unit of the organization, the Standard Automatic Products Company, is already located in this city and negotiations are pending with George I. Stich, president of the former concern, for the removal to Corry of the two units at College Point, N. Y. and Dayton O.

Milwaukee, Sept. 11.—The Standard Tool and Die Corporation has been working overtime, including Sundays, getting out equipment that manufacturers need in preparing for increased production schedules, according to Herbert W. Goltz. The company does a business on a national basis and large orders have been received from Nash Motors in addition to other firms.

Buffalo, N. Y., Sept. 11.—In order to provide for increasing business volume, the firm of Martin & Schwartz, Inc., manufacturer of gasoline pumps and service station equipment, 2651 Main St., has acquired the former plant of the Automatic Transportation Company at 2933 Main St., containing 60,000 square feet of floor space. Plant and equipment will be removed to the new location late this month, where treble the present amount of floor space has been provided.

East Palestine, O., Sept. 11.—John G. Madden, secretary of the East Palestine Chamber of Commerce, has announced that a drive to obtain $20,000 to finance moving the Garfield Tool and Die Company to this city from Garfield, O., has been successful. Officials of the new concern began preparations to start operations at the plant at once. Present quarters of the firm are located in the property which formerly housed the New Tread Tire and Rubber Company.

YOUNG LADY HOSTESSES AID OPENING OF NEW COMPLETE SERVICE PLANT

Trenton, N. J., Sept. 11.—An all-day program marked the formal opening of the new Goodrich Silvertown, Inc., complete car service plant at 20-28 Passaic St., formerly the Gladstone Tire Service. Throughout the day, Trenton young ladies acted as hostesses and distributed novelties and souvenirs such as toy balloons, minature Goodrich tires, rubber animals, golf tees, pencils and roses.

At 3 o'clock in the afternoon a plane from Mercer Airport circled above the station in a formal dedicatory salute. Miniature tires, dropped from the plane during the salute, carried tickets exchangeable for merchandise.

The new Goodrich Silvertown, Inc., station was built at a cost of approximately $100,000. At the head of the organization here is Fred C. Gladstone, former manager of the Gladstone Tire Service, which the new company succeeds. Assisting him are Elmer L. Cook as operating manager and Paul B. Wood as city representative.

Representatives of the B. F. Goodrich Company in Trenton for the opening included H. J. Morehead, South Atlantic zone manager; A. B. Robinson, branch manager; N. Z. Bierly, store manager, and W. B. Cunningham, all of Philadelphia, and E. W. Clark, of Akron, O.

CHICAGO A. T. A. TO HOLD WEEKLY DEALER MEETINGS

Chicago, Sept. 11. — Elaborate plans for fall starting this month have been worked out by the Chicago Automobile Trade Association, and were announced today. One of the features will be a series of weekly noon-day dealer meetings each Friday, at which prominent men in the motor industry will be the speakers. The idea was tried out last spring, when H. Wallace Peters, vice-president of the Packard Motor Car Company, and Paul G. Hoffman, vice-president of the Studebaker Corporation, addressed the Chicago dealers. The success of those two gatherings led the trade association heads to make them a regular event.

In addition to the weekly get-togethers, monthly community dealer meetings will be held under sponsorship of the association. Plans are being worked out for the annual pre-show meeting and banquet which will usher in the national automobile exposition at the Coliseum, January 24.

Service Notes

Hoquiam, Wash., Sept. 11.—L. E. Wilkeson, owner of Wilkeson, Inc., Pierce county India tire distributor, was the principal speaker at a recent meeting of the Hoquiam Chamber of Commerce. He discussed the growing importance of aviation as a passenger carrier and in commercial transportation. Wilkeson, a former American World War flyer, has been chairman of the aviation committee of the Tacoma Chamber of Commerce for the past two years. He is now manager of Tacoma Field, the Pierce county airport.

Jersey City, N. J., Sept. 11.—The M. & G. Garage Repairmen's Finance Corporation has been formed here with a capitalization of $25,000 by Harry Schirmer, John E. Duffy and Frank J. Bello, Jersey City.

Newark, N. J., Sept. 11.—The Texas Company has been granted a building permit to erect a service station at 106-8 Park Ave., this city.

Indianapolis, Ind., Sept. 11.—Robert Bryce, head of Bryce Auto Service, is celebrating his fifth anniversary in the field with the opening of a new downtown de luxe service station, which was completed in the record time of twelve days. Three other plants are included in the Bryce chain.

Passaic, N. J., Sept. 11.—The Sunrise Filling Station, to deal in Fisk tires, Exide batteries and accessories, has opened at Central Avenue and Autumn Street. Les Weish and Lew Springer are co-owners.

Washington, Ia., Sept. 11. — The Coast-to-Coast Electrical Company, Minneapolis, operating a chain of forty-four stores, will establish a local branch of its accessories, radio, electrical appliances and supplies store in the new Masonic building, opening early in October.

Jersey City, N. J., Sept. 11.—The Brooks & Kip Tire Company, local distributor of Exide batteries, has added a complete electrical department.

J. H. WILLIAMS WILL CONSOLIDATE OFFICES

Buffalo, N. Y., Sept. 11.—"After October 1, the general office and main sales office (exclusive of sales of special drop-forgings to order) of J. H. Williams & Company, will be consolidated with its present Eastern sales office and warehouse at 75 Spring St., New York city. This move is being made chiefly in the interest of more frequent contact with customers and of closer concentration of its sales activities.

A service department will be retained at Buffalo to represent the sales department at the factory in giving special attention to the orders of customers and of the New York and Chicago warehouses.

NOCIL MADE PRESIDENT OF DIVCO-DETROIT CORP.

Detroit, Sept. 11. — John Nocil, formerly vice-president and general manager of the Divco-Detroit Corporation, was elevated to the presidency of that organization at the meeting of the board of directors yesterday. C. H. L. Flinterman was made chairman of the board; George M. Bacon re-elected vice-president; B. H. Eaton, secretary, and N. E. Hund, treasurer.

The company, which manufactures specially designed vehicles for frequent-stop service, reports increased sales over last year despite prevailing business conditions.

WISCONSIN AXLES

make the selling job easier, whether it's trucks or buses. In sturdiness, efficiency, and accessibility they answer all questions about axles.

WISCONSIN AXLE CO.
Oshkosh Wisconsin

NEW COMMERCIAL CAR REGISTRATIONS FOR FIRST

Name of Truck	Alabama	Arizona	Arkansas	California	Colorado	Connecticut	Delaware	Florida	Georgia	Idaho	Illinois	Indiana	Iowa	Kansas	Kentucky	Louisiana	Maine	Maryland	Massachusetts	Michigan	Minnesota	Mississippi	Missouri	Montana	Nebraska
Autocar				108	1	52	12		6		64	9	1		7	3	6	78	168	40			28	3	
Brockway-Indiana	5		11	2	4	60	2	19	40		103	150	29	16	25	25	7	29	132	28		13	82		14
Chevrolet	1511	512	1397	3203	1156	1212	315	985	1646	413	4866	2943	3177	3624	1209	1317	1133	1155	2256	4895	2110	1300	3416	636	2024
Diamond-T			3	9		40		1	1	1	723	49	15	18	20	13	11	54	93	45	12		173		13
Dodge	95	163	143	1511	250	440	35	87	142	70	1063	529	332	455	199	140	195	255	838	701	259	55	628	174	214
Fargo	7	8	11	69	28	42	1	3	5	3	99	21	45	53	18	4	13	9	126	104	15	5	37	10	12
Federal	10		7	161	16	36	1	2	8		98	43	18	4	3	5	1	31	100	153	43		88	14	4
Ford	1325	860	2055	9515	1385	1500	428	1781	1769	399	7063	4003	2246	3294	1295	1967	1298	1666	4576	8293	3037	1353	3977	1253	1908
G. M. C.	44	84	52	632	181	197	57	42	38	28	501	330	98	227	134	82	46	141	527	589	148	27	404	73	167
International	175	101	350	376	243	220	69	101	110	79	1553	538	929	879	283	302	62	240	502	749	551	165	689	336	525
Mack	11	5	6	268	11	228	4	23	27	15	236	17	34	8	38	19	15	144	304	93	24	1	111	13	18
Relay	1			2	1	14					15	27	11	2	10	1		8	4	9	5		4	2	
Reo	21	32	45	711	44	343	28	40	20	34	376	252	203	128	100	19	135	150	574	549	163	24	200	77	64
Republic				22	3	2	2	3		1	11		3	9	4			8	3	12			12	4	1
Rugby	1	16	3	110	14	10	4			13		9	20	8	4	1	10	4	10	25	9	4	18	13	11
Sterling				182		14	1				67						4	32	124				17		
Stewart	1	3		54		99	1				22	57	1	6	4			26	63	1			8		
Studebaker	1	32	8	120	10	41	1	5	7	4		59	15	29	17	1	13	5	35	34	23	1	35	5	19
Whippet	24	11	34	50	25	46	2	20	28	4	158	111	86	174	42	17	22	16	68	152	87	7	149	17	51
White	21	11	33	263	34	44	11	33	56	17	173	57	23	25	32	35	4	94	182	68	53		69	28	26
Willys-Knight	1	6	1	10	4	14	1		2	2		5	6	20	5	3	5	2	14	22	9	4	4	12	2
Miscellaneous	10	8	27	1259	13	92	7	6	5	21	954	50	35	40	47	3	13	86	259	252	34	2	164	16	37
Totals	3264	1852	4186	18637	3423	4746	982	3151	3910	1104	18145	9259	7327	9019	3496	3957	2903	4233	10958	16814	6582	2961	10313	2686	5110

Chevrolet Delivered Prices in Leading Cities

Chevrolet delivered price with spare tire, tube and bumper.	New York City	Boston	Philadelphia	Washington	Detroit	Chicago	Atlanta	Dallas	Denver	Portland
Sport roadster	$602	$614	$619	$612	$585	$593	$633	$649	$671	$687
Roadster	582	594	597	592	565	573	613	629	651	667
Phaeton	582	594	597	592	565	573	613	629	651	667
Coach	652	654	667	662	635	643	683	699	721	737
Coupe	652	654	667	662	635	643	683	699	721	737
Sport coupe	702	714	719	612	685	693	733	749	771	787
Club sedan	712	724	727	722	695	703	743	759	781	797
Sedan	762	774	777	772	745	753	793	809	831	847
Special sedan	787	864	820	816	775	793	831	819	868	857

Ford and Chevrolet Used Car Sales Up in Seattle

SEATTLE, Wash., Sept. 11.—Selling $3,000 worth of used cars by one firm in this city in one day would indicate that the used car business is booming. This is the case, and the used car situation is in fine shape here.

William O. McKay Company, Ford dealer, had a $15,000 week in used cars. New sales reported fair, with chief demand for de luxe models, in phaetons, roadsters and coupes. Near-opening of the university, with students as buyers, has had its effect for this type of car. Jack Anderson, used car manager, is enthused over August used car volume and also looks for a good September.

Ford sales at all the dealerships in King county ran just a trifle below the century mark during the last week in August. This is the first time during the entire summer that the registrations were less than 100, being 96, according to the Motor List Company compilations. Chevrolet sales held up to the average for that model, being twenty-seven for the week.

There was much interest during the week over the economy gasoline test run conducted by C. H. Wells, Inc., Chevrolet dealer. Another advertising stunt for this concern was the return of the Chicago-Seattle endurance run Chevrolet touring car. The distance, 4,870 miles, was made in 108½ hours, this including the few short stops made. Two drivers were on board. Not a tool was put to the car, which claims a world's record endurance, over such roads as were encountered through Montana and the Dakotas. In Wisconsin storms caused muddy roads.

Sport models at the new prices, in variety of colors, were good sellers for Chevrolet dealers the past week.

August measured up very satisfactorily and outlook is good for coming fall months, with general business tone in this district improved.

SALES OF FORD CANADA EQUAL TO LAST YEAR

Montreal, Sept. 11.—Sales of the Ford Motor Company of Canada, Ltd., thus far in 1930 practically equal those for the same period of 1929, according to E. F. Millard, advertising manager of the Ford Motor Company of Canada, Ltd., who is in Montreal during a business trip which will take him from Vancouver to Halifax.

During his stay here Mr. Millard is surveying business conditions in this territory with P. N. Mainguy, manager of the Montreal branch of the company.

BUYS FORD DEALERSHIP

Dyersburg, Tenn., Sept. 11.—Scott Brothers have sold the Ford dealership here to Miller & Bond, Inc. C. E. Miller, former automobile dealer of Crenshaw, Miss., and Nick Bond of the Nick Bond Auto Company here, are the new owners. T. E. Carraway is service manager.

ELEVEN STATES PLACED ON "SAFETY HONOR ROLL"

New York, Sept. 11.—Eleven states have been placed on the "Safety Honor Roll" by the American Automobile Association for reducing the number of fatalities on the streets and highways in 1929, as compared to 1928. The states named were: Delaware, South Dakota, Montana, Rhode Island, Oregon, District of Columbia, Louisiana, North Carolina, Vermont, North Dakota and Illinois.

FORD DISPLAY FEATURES NEBRASKA STATE FAIR

Lincoln, Neb., Sept. 11.—The two Lincoln Ford dealers, O'Shea Motor Company and Rogers Motor Company, co-operated in staging the largest Ford display in the history of the Nebraska State Fair, which closed here September 5. In addition to the mammoth display at the automobile auditorium on the fair grounds, both dealers had special displays in their downtown show rooms. The automobile display at the state fair was the largest since it became a feature of the fair, eighteen years ago.

Twenty-two dealers had displays in the automobile auditorium, including five makes of trucks. One airplane display was included, the Arrow Sport line exhibited by the Arrow Aircraft and Motors Corporation, which also had a display of Woods trucks, Patriot commercial truck bodies, and the new four-wheel light commercial trailer, manufactured by the Woods Truck division of the Arrow corporation and which made its first public appearance at the fair.

TARRANT CHEVROLET CO. OPENS IN BIRMINGHAM

Birmingham, Ala., Sept. 11.—Announcement is made that Garrit Fort, Jr., for several years associated with the United States Rubber Company in Birmingham, as district manager of tire sales, has taken over the franchise for distribution of Chevrolet automobiles in Tarrant City. The new dealership will be known as the Tarrant Chevrolet Company, Inc., and will be located at 1112 Wharton Ave., Tarrant City.

WILKINS CHEVROLET OPENS NEW PLANT AT McCOMB

McComb, Miss., Sept. 11.—A new plant has been completed recently by S. C. Wilkins, manager of the Wilkins Chevrolet Company, Fifth Avenue and South Broadway. It has sales, equipment parts, repairs and storage features.

Personal Briefs

Indianapolis, Ind., Sept. 11.—R. W. Anderson has been appointed sales manager of the Chilison Sales Company, Pierce-Arrow distributor here. Mr. Anderson, who for the last twelve years has been connected with the retail departments of the local Cadillac and Stutz dealerships, previously served as branch manager for Chevrolet in Atlanta, Ga.; Omaha, Neb.; Milwaukee, Wis.; Minneapolis, Minn., and Chicago. He made his bow in the transportation industry at the time when W. C. Durant was first starting in the buggy manufacturing business, selling Durant, his first consignment of wheels and bows.

Hartford, Conn., Sept. 11.—Clarence E. Joyce, wholesale manager of the Connecticut Hupmobile Company, state Hupmobile distributor, has severed his relations with the firm and the department has been taken over by Charles Bradford Beach, one of the officers of the company. Mr. Beach has been associated with the Hupmobile representation in this city for many years.

Wichita, Kan., Sept. 11.—H. T. Seale, connected with the associated companies of the Butler Motor Company in Kansas City the past 11 years, has purchased the interest of Jack Hull in the Hull-Butler Motor Company, Graham-Paige motor car distributors here. He becomes vice-president and general manager of the company, following Mr. Hull's retirement to rest and regain his health.

Hartford, Conn., Sept. 11.—E. A. Sontag, general manager of S. A. Orr, Inc., 80 Washington St., distributor of the Pierce-Arrow, has resigned and announces no plans as to the future. J. W. MacNeally has taken over the management of the place.

DEALER DOINGS

Indianapolis, Ind., Sept. 11.—"Maley month" is being celebrated by the Jones & Maley organization, distributors for De Soto and Plymouth automobiles here, in connection with the return of Charles M. Maley, president of the company, from a tour of Europe. This hustling staff of workmen has kept De Soto in third place in new car registrations here throughout the year.

Rochester, N. Y., Sept. 11.—Jordan Distributors, Inc., has acquired the automotive sales and service building at 340 Culver Road here, and will remodel it for early occupancy. A considerable amount of additional floor space is provided in the new building, enabling the concern to expand its facilities materially.

Bangor, Me., Sept. 11. — The Northern Oldsmobile Company of this city held its second annualouting recently at Lamoine Beach. The party consisted of forty, including officers and employees of the company.

Newark, N. J., Sept. 11.—Alfred de Cozen, president and general manager of the De Cozen Motor Company, Chrysler distributor for New Jersey, announces the appointment of the Union Automobile Company of 4500 Hudson Boulevard, Union City, as authorized Chrysler dealer for that territory. The new dealer had the formal opening Saturday and members of the De Cozen wholesale department, including M. A. Manship, Manager Guy Overman and Ed Edwards, presented J. A. Gomes, president of the company with the Chrysler franchise. Gomes is one of the oldest automobile merchants in Hudson county, entering the automobile business in 1912 with the Willys-Overland dealership.

San Antonio, Tex., Sept. 11.—The Murray-Winerich Motor Company, Whippet and Willys-Knight distributor, joined the buy-a-bale of cotton move inaugurated by Gov. Moody, and has purchased a bale. In addition to this the company has offered to purchase any of this year's middling cotton at 15 cents per pound, the purchase price to apply on the purchase of any used car in stock. The offer has created unusual interest among both motor dealers and local farmers.

Cumulative New Commercial Car Registration Statistics, August, 1930

States	Autocar	Brockway-Indiana	Chevrolet	Diamond-T	Dodge	Essex	Fargo	Federal	Ford	G. M. C.	International	Mack	Paige	Relay	Reo	Republic	Rugby	Sterling	Stewart	Studebaker	Whippet	White	Willys	Willys-Knight	Miscellaneous	Totals	States
Illinois	5	3	360	22	26	1		7	587	12	120	10	1	1	14	3		4	1		3	10	2	3	105	1300	Illinois
Ill., 1929	6	9	718	62	92		15	6	1073	46	140	16			33	1		9	2		40	19			106	2393	Ill., 1929

SEVEN MONTHS OF 1929 BY MAKES AND STATES

Name of Truck	Nevada	N. Hampshire	New Jersey	New Mexico	New York	North Carolina	North Dakota	Ohio	Oklahoma	Oregon	Pennsylvania	Rhode Island	South Carolina	South Dakota	Tennessee	Texas	Utah	Vermont	Virginia	Washington	West Virginia	Wisconsin	Wyoming	Dist. of Col.	Totals
Autocar		3	158		391	15		125	5	1	312	40				51			18		1	2		9	1,717
Brockway-Indiana		26	159	4	1130	13		156	48		280	7	18	1	7	80		16	44		29	4		17	2,835
Chevrolet	128	540	2985	481	7539	2507	714	4742	2836	1034	5113	453	1307	769	1605	8160	400	342	2075	1299	1099	2992	188	296	98,015
Diamond-T		5	54		393		5	85	21	1	150	4		8	8	31		1	8		19	148		35	2,270
Dodge	100	104	606	76	2076	338	80	836	439	201	1530	187	114	105	166	734	106	109	230	309	213	398	106	52	18,188
Fargo	7	9	100	15	370	14	6	97	43	22	197	22	18	9	3	69	5	20	4	27	9	40	4		1,858
Federal	1	8	113	3	188	10	4	102	53	46	100	34	31	2	38	31		18	34	23	14	68		2	1,769
Ford	288	750	4350	426	11138	2482	796	6667	3290	1718	8520	539	1265	789	1252	7967	767	536	2270	2514	1309	4595	392	782	133,648
G. M. C.	15	49	380	30	911	144	69	463	150	147	634	111	55	54	145	418	22	44	107	178	100	230	12	40	9,357
International	18	47	285	86	1358	140	558	965	681	182	952	49	104	508	137	1767	75	168	252	263	255	664	59	33	19,733
Mack	3	16	430		1095	42		166	37	48	501	59	12	8	37	70	23	29	29	35	4	31	2	43	4,393
Relay			15		74		2	25	2		87					24		2	5	4	13	18		8	395
Reo	6	61	396	16	972	42	35	464	119	108	737	156	13	78	57	284	32	69	98	156	97	247	16	26	8,617
Republic	1		11		11	6		18	2	5	44		2		3				21	9	2	2			237
Rugby	2	4	29	2	57	13	12	21	3	28	50	8	3	11	1	32	12	3	12	36	6	19	3	1	685
Sterling	1	2	61		119			20		10	194	12				9		11	22		13	51		20	1,331
Stewart		13	45		504	9		40	10		210	24	3	1		9		11	22		13	51		20	1,331
Studebaker	2	6	54	2	104	11	1	48	22	15	82	7	2	5	15	38	8	7	9	20	9	31	5		1,023
Whippet		16	103	23	265	28	18	308	110	16	255	10	10	18	13	181	7	11	34	38	15	102	4	10	2,996
White	6	6	202	16	553	31	4	350	58	69	371	22		5	30	132	20	14	50	114	19	52	9	35	3,570
Willys-Knight	1	2	31		29	1	7	48	6		28	2		7	3	10	1	5		2	6	16			359
Miscellaneous	25	6	594	1	1252	74	17	368	42	93	457	26	10	9	22	71	10	17	8	192	21	163	4	15	6,937
Totals	604	1673	11161	1181	30529	5920	2328	16114	7977	3744	20804	1772	2977	2387	3542	20159	1488	1422	5330	5219	3253	9959	804	1434	320,889

MAJOR SPECIFICATIONS AND MECHANICAL DETAILS OF

Make and Model	Capacity—Tons	Chassis Price	Engine	No. of Cyl.	Bore and Stroke	Tax H. P.	Oil System	Carburetor	Fuel Feed	Ignit. System	Gear Set	Location	No. Spds. For.	Rear Axle	Final Drive	Reduction in Low	Brakes, Foot	Brakes, Hand	Standard Wheel Base	Chassis Weight	Standard Tire Sizes Rear	Front
Am. La France Chief	2	3650	Own	6	3¾x5	33.0	Pw	Str	Vac	DR	Own	C	4	Tim	Wo	31.2	4	D	156	6200	32x6	32x6D
Am. La France W	3-4	3950	Own 2 R	4	4¼x6	28.9	CS	Zen	Vac	AB	Own	C	4	Own	2R	47.4	4	R	160	7200	S36x5	S36x5D
Am. La Fran. Chieftain	3-4	5500	Own	6	4⅛x5⅛	40.8	Pw	Zen	Vac	DR	Own	C	4	Tim	Wo	28.8	4	D	175	7200	S36x8	36x8D
Am. La France V	5	5500	Own 5 R	4	4¾x6	36.2	CS	Zen	Vac	AB	Own	C	4	Own	Wo	54.4	4	R	165	9800	S36x5	S40x6D
Am. La Fran. Big Chief	6	6725	Own	6	4½x6	48.6	Pw	Zen	Vac	DR	Own	C	4	Own	2R	32.8	4W	D	226	10600	S40x8	S40x8D
Am. La France Z	6½	5750	Own 5 R	4	4¾x6	36.2	CS	Zen	Vac	AB	Own	C	4	Own	Wo	63.5	4	R	165	10000	S36x7	S40x7D
Am. La France U	7½	6000	Own 5 R	4	4¾x6	36.2	CS	Zen	Vac	AB	Own	C	4	Own	—	63.5	4	R	165	10500	S36x7	S40x8D
Austin	—	*499	Own	4	2.2x3	7.8	—	Til	—	Aut-L	W-G	U	3	Sal	Sp	—	4	4	75	——	3.75x18	3.75x18
Autocar A	1½-2	3200	Own	6	4 x4¾	38.4	Pw	Str	Vac	DR	Br-L 51	U	4	Own SA	Sp	27.9	4	R	150	5060	34x7	34x7
Autocar D	2-2½	3500	Own	6	4 x4¾	38.4	Pw	Str	Vac	DR	Br-L 51	U	4	Own SD	2R	33.7	4	R	150	5300	34x7	34x7D
*Autocar SH	2½-3	4300	Own	6	4¼x4¾	43.4	Pw	Str	Gra	LN	Own T	U	4	Own H	2R	44.3	R	R	114	6770	34x7	34x7D
Autocar SCH	2½-3	4300	Own	6	4¼x4¾	43.4	Pw	Str	Vac	LN	Own T	U	4	Own H	2R	44.3	R	D	157	6860	34x7	34x7D
*Autocar H	3	4100	Own	4	4½x5½	32.4	CS	Str	Gra	AB	Own T	U	4	Own H	2R	48.6	R	R	114	6770	34x7	34x7D
*Autocar HS	3½	4600	Own	4	4½x5½	32.4	CS	Str	Gra	AB	Own T	U	4	Own C	2R	53.6	R	R	114	7900	40x8	40x8D
*Autocar SHS	3-3½	4800	Own	6	4¼x4¾	43.4	Pw	Str	Gra	LN	Own T	U	4	Own C	2R	53.6	R	R	114	7900	40x8	40x8D
*Autocar SCHS	3-3½	4800	Own	6	4¼x4¾	43.4	Pw	Str	Vac	LN	Own T	U	4	Own C	2R	53.6	R	D	157	8180	40x8	40x8D
Autocar TEA	3-3½	5350	Own	6	4¼x4¾	43.4	Pw	Str	Vac	LN	Own T	U	12	Own TE	2R	101.7	4	D	192	8900	36x8	36x8D
Autocar TFA	3½-5	6100	Own	6	4½x4¾	48.6	Pw	Str	Vac	LN	Own T	U	12	Own TF	2R	101.3	4	D	192	9300	38x9	38x9D
Autocar C	3½-5	5500	Own	6	4½x4¾	48.6	Pw	Str	Vac	LN	Own B	C	4	Own C	2R	61.7	R	D	172	9500	42x9	42x9D
Autocar F	7½	6800	Own	6	4½x4¾	48.6	Pw	Str	Vac	LN	Br-L 70	C	7	Tim	Wo	94.0	4	D	173	11000	36x7S	40x8DS
Autocar G	10	9000	Own	6	4½x4¾	48.6	Pw	Str	Vac	LN	Br-L 70	C	7	Tim	Wo	97.7	WB	D	171	13000	36x8	36x8D
Brockway 65	1	1195	Con	6	3⅜x4⅝	27.3	Pw	Zen	Vac	Aut	Br-L	U	3	Col	Sp	21.3	4	Tr	137	3400	30x5	30x5
Brockway 75	¼	1290	Con	6	3⅜x4⅝	27.3	Pw	Zen	Vac	Aut	Br-L	U	4	Col	Sp	25.6	4	Tr	137	3450	32x6	32x6
Brockway 90	1½	1525	Con	6	3⅜x4⅝	27.3	Pw	Zen	Vac	Aut	Br-L	U	4	Col	Sp	25.6	4	Tr	149	3650	32x6	32x6
Brockway 120	2	1990	Con	6	4 x4⅛	38.4	Pb	Zen	P	Aut	Br-L	U	4	Tim	Sp	—	4	Tr	156	5200	32x6	32x6D
Brockway 140	2	2495	Con	6	4 x4⅛	38.4	Pb	Zen	P	Aut	Br-L	U	4	Wis	2R	—	4HV	D	156	5500	32x6	32x6D
Brockway 170	2½	3160	Con	6	4⅛x4¾	40.8	Pb	Zen	P	Aut	Br-L	U	4	Wis	2R	—	4HV	D	170	6800	32x6	32x6D
Brockway 195	3	3820	Con	6	4⅛x4¾	40.8	Pb	Zen	P	Aut	Br-L	U	4	Wis	2R	—	4HV	D	170	7500	34x7	34x7D
Brockway 190	3	4185	Con	6	4⅛x4¾	40.8	Pb	Str	P	Aut	Br-L	C	7	Tim	Wo	—	RV	D	168½	7625	34x7	34x7D
Brockway 220	3½	4560	Con	6	4⅜x4¾	45.9	Pb	Zen	P	Aut	Br-L	U	4	Wis	2R	—	4HV	D	170	8200	36x8	36x8D
Brockway 250	5	5950	Con	6	4⅜x4¾	45.9	Pb	Str	P	Aut	Br-L	U	4	Tim	Wo	—	4HV	D	182	10000	40x8	40x8D
Brockway 290	7½	7250	Con	6	4¾x5¾	54.15	Pw	Str	P	L-N	Br-L	C	7	Tim	Wo	—	4W	D	182	10750	38x7	40x14S
Brockway 640	10	9700	Con	6	4¾x5¾	54.15	Pw	Str	P	L-N	Br-L	C	7	Tim	Wo	—	4W	R	212	14000	38x7	36x10S
Chevrolet	½	355	Own	6	2⅛x3¾	26.3	CS	Car	P	DR	Own	U	3	Own	Sp	[illegible].61	4	R	107	1835	4.75x19	4.75x19
Chevrolet	1½	520	Own	6	3⅛x3¾	26.3	CS	Car	P	DR	Own	U	4	Own	Sp	33.46	4	R	131	2375	30x5	30x5
Commerce Series S 11	1	1600	Bud H S 6	6	3⅜x4½	27.3	Pb	Zen	Vac	Aut	Br-L 20	U	4	Col 54028	Sp	25.5	4	D	142	3900	30x5P	30x5P
Commerce Series 40	1½	2090	Bud D S 6	6	3⅝x5	31.5	Pb	Zen	Vac	Aut	Br-L 35	U	4	Tim 63702	Wo	34.8	4		168	4700	34x5P	34x5D
Commerce Series S 11	2	2030	Bud H S 6	6	3⅜x4½	27.3	Pb	Zen	Vac	Aut	Br-L 20	U	4	Tim 54006	Sp	29.2	4		162	4500	32x6P	32x6D
Commerce Series 40	2	3240	Bud D S 6	6	3⅝x5	31.5	Pb	Zen	Vac	Aut	Br-L 35	U	4	Tim 63702	Wo	34.8	4		168	4900	36x6	36x6D
Commerce Series 40	2½	3240	Bud D S 6	6	3⅝x5	31.5	Pb	Zen	Vac	Aut	Br-L 35	U	4	Tim 63702	Wo	34.8	4		168	5100	36x6P	36x6D
Commerce Series 60	2½	4580	Bud B A 6	6	4⅛x5⅛	40.8	Pb	Zen	Vac	Aut	Ful	U	5	Tim 65706DH	Wo	63.0	4		175	7000	38x6P	36x6D
Commerce Series 60	3	4680	Bud B A 6	6	4⅛x5⅛	40.8	Pb	Zen	Vac	Aut	Ful	U	5	Tim 65706DH	Wo	63.0	4		175	7100	36x6P	36x6D
Commerce Series 80	3½	5250	Bud B A 6	6	4⅛x5⅛	40.8	Pb	Zen	Vac	Aut	Br-L	C	7	Tim 66700DP	Wo	98.2	B		175	8200	36x6S	36x12S
Commerce Series 100	5	5830	Bud B A 6	6	4⅛x5⅛	40.8	Pb	Zen	Vac	Aut	Br-L	C	7	Tim 68700DP	Wo	95.0	B		175	9600	36x6S	40x14S
Day Elder 60	1	1195	Con 25 A	6	3⅜x4	27.3	Pw	Zen	P	DR	W-G	U	4	Tim	Sp	36.3	4	D	135	3200	20x6.00B	20x6.50B
Day Elder 85	1½	1645	Con 16 C	6	3⅜x4⅝	27.3	Pw	Zen	P	DR	W-G	U	4	Tim	Sp	42.3	4	D	135	3750	20x6.00	20x6.50DB
Day Elder 110	2	2095	Con 16 C	6	3⅜x4⅝	27.3	Pw	Zen	P	DR	Br-L	U	4	Tim	Sp	36.4	4	D	156	4600	20x7.00	20x7.00DB
Day Elder 130	2½	2895	Con 16 R	6	4 x4⅛	38.4	Pw	Zen	P	DR	Br-L	U	4	Tim	Sp	33.0	4	D	150	6300	20x7.50B	20x7.50DB
Day Elder 160	3	3695	Con 18 R	6	4 x4½	38.4	Pw	Zen	P	DR	Br-L	U	4	Tim	Wo	36.1	4	D	156	6600	20x7.50B	20x9.00DB
Day Elder 200	4	4295	Con 18 R	6	4 x4½	38.4	Pw	Zen	P	DR	Br-L	U	4	Tim	Wo	43.5	4	D	155	6400	20x9.00B	20x9.00B
Day Elder 240	5	5500	Con 21 R	6	4⅜x4¾	45.9	Pw	Zen	V	DR	Br-L	C	4	Tim	Wo	50.8	4	D	162	9300	38x9P	38x9DP
Day Elder 285	8	6000	Con 21 R	6	4⅜x4¾	45.9	Pw	Zen	V	DR	Br-L	C	7	Tim	Wo	71.2	6	D	164	12000	20x8.25B	20x8.25DB
Day Elder 345	10	7500	Con 21 R	6	4⅜x4¾	45.9	Pw	Zen	V	DR	Br-L	C	7	Tim	Wo	79.9	4	D	164	12500	20x9.00B	20x9.00DB
Day Elder 402	12	8500	Con 16 H	6	4¾x5¾	54.2	Pw	Zen	P	DR	Br-L	C	7	Tim	Wo	84.6	4	D	164	14000	20x9.75B	20x9.75DB
Diamond T 250	1	785	Bud	4	3¾x4½	22.5	Pw	Zen	P	Aut	W-G	U	4	Cla	Sp	—	4	D	128½	3050	30x5	30x5
Diamond T 215	1	885	Bud	6	3⅜x4	27.3	Pw	Zen	P	Aut	W-G	U	4	Cla	Sp	—	4	D	135⅛	3150	30x5	30x5
Diamond T 290	1½	1475	Her WXA 2	6	3½x4½	29.4	Pb	Zen	Vac	Aut	Cov	U	4	Col	Sp	—	4	D	156¼	4160	30x5	30x5D
Diamond T 303	2	1745	Her WXB	6	3¾x4½	33.7	Pb	Zen	Vac	Aut	Cov	U	4	Tim	Sp	—	4	D	160¾	4850	32x6	32x6D
Diamond T 551	2½	2250	Her WXC	6	4 x4½	38.4	Pb	Zen	Vac	Aut	Cov	U	4	Tim	Wo	—	4	D	168	5600	32x6	32x6D
Diamond T 503	2½	2660	Her WXC	6	4 x4½	38.4	Pb	Zen	Vac	Aut	Cov	U	4	Tim	2R	—	4	D	174	6200	34x7	34x7D
Diamond T 506	2½	2820	Her WXC	6	4 x4½	38.4	Pb	Zen	Vac	Aut	Cov	U	4	Wis	Wo	—	4	D	172½	6300	34x7	34x7D
Diamond T 602	3	3440	Her YXC	6	4⅜x4¾	45.9	Pb	Zen	Gra	Aut	Cov	C	4	Tim	Wo	—	4	D	169½	7500	36x8	36x8D
Diamond T 606	3	3500	Her YXC	6	4⅜x4¾	45.9	Pb	Zen	Gra	Aut	Cov	U	4	Wis	2R	—	4	D	186	7500	36x8	36x8D
Diamond T 700	3½	3740	Her YXC	6	4⅜x4¾	45.9	Pb	Zen	Gra	Aut	Cov	C	4	Tim	Wo	—	R	D	162	8100	S36x5	S36x10
Diamond T 801	4	4140	Her YXC	6	4⅜x4¾	45.9	Pb	Zen	Gra	Aut	Br-L	C	4	Own	Wo	—	6WH	D	189½	8300	36x8 4 wh	36x8
Diamond T 1000	5	4420	Her YXC 2	6	4½x4¾	48.6	Pb	Zen	Gra	Aut	Br-L	C	4	Tim	Wo	—	R	D	170½	9700	S36x6	S40x12
Diamond T 1200	6	5600	Her YXC 2	6	4½x4¾	48.6	Pb	Zen	Gra	Aut	Br-L	C	7	Tim	Wo	—	4RW	D	180	11000	34x7 4 w h	34x7D
Diamond T 1600	8	6220	Her YXC 3	6	4⅝x4¾	51.3	Pb	Zen	Gra	Aut	Br-L	C	7	Tim	Wo	—	4RW	D	190	11700	36x8 4 wh	36x8D
Diamond T 1601	8	7500	Wak 6 R B	6	5 x5¾	60.0	Pb	Zen	Gra	Mag	Br-L	C	7	Tim	Wo	—	4RW	D	194	12500	36x8 4 wh	36x8D
Diamond T 2500	10-12	8000	Wak 6 R B	6	5 x5¾	60	Pb	Zen	Gra	Mag	Br-L	C	7	Tim	Wo	—	4RW	D	194	13100	S36x7 4 wh	36x12S
Dodge Bros. UF10A	½	435	Own	4	3⅝x4¾	21.2	Pb	Car	P	DR	Own	U		Own	Sp	14.28	4	D	109	1855	5.00x19	5.00x19
Dodge Bros. F 10 A	½	515	Own	6	3⅛x4⅛	23.4	Pb	Car	P	DR	Own	U		Own	Sp	14.28	4	D	109	1960	5.25x19	5.25x19
Dodge Bros. U-1	¾	695	Own	4	3⅝x4¼	21.3	Pb	Car	Vac	NE	Own	U	3	Own	Sp	21.68	4	D	124	2260	5.50x20B	5.50x20B
Dodge Bros DA1	¾	795	Own	6	3⅜x3⅞	27.3	Pb	Zen	Vac	NE	Own	U	3	Own	Sp	19.21	4	D	124	2360	5.50x20B	5.50x20B
Dodge Bros. U-1	1	795	Own	4	3⅝x4¼	21.3	Pb	Car	Vac	NE	Own	U	4	Own	Sp	36.13	4	D	133	2590	6.00x20B	32x6
Dodge Bros. DA1	1	895	Own	6	3⅜x3⅞	27.3	Pb	Zen	Vac	NE	Own	U	4	Own	Sp	33.45	4	D	133	2690	6.00x20B	32x6
Dodge Bros DA1	1	1095	Own	6	3⅜x3⅞	27.3	Pb	Zen	Vac	NE	Own	U	4	Own	Sp	36.83	4	D	140	2955	30x5	30x5
Dodge Bros. UF30A	1½	595	Own	4	3⅝x4¾	21.0	Pb	Car	P	DR	Own	U		Own	Sp	37.17	4	D	136	2665	6.00x20	32x6
Dodge Bros. F 30 A	1½	695	Own	6	3⅛x4⅛	23.4	Pb	Car	P	DR	Own	U		Own	Sp	37.17	4	D	136	2765	6.00x20	32x6
Dodge Bros DA1	1½	1365	Own	6	3⅜x3⅞	27.3	Pb	Zen	Vac	NE	Own	U	4	Own	Sp	36.83	4	D	150	3695	32x6	32x6
Dodge Bros. F 35 A	1½	1425	Own	6	3⅜x2⅞	27.3	Pb	Zen	P	DR	Own	U		Own	Sp	41.43	4	D	140	3780	6.00x20	6.00x20D
Dodge Bros. DA1	1½	1415	Own	6	3⅜x3⅞	27.3	Pb	Zen	Vac	NE	Own	U	4	Own	Sp	36.83	4	D	165	3810	32x6	32x6
Dodge Bros. DB1	2	1595	Own	6	3⅜x4½	27.3	Pb	Zen	Vac	NE	Own	U	4	Own	Sp	36.83	4	D	150	3930	32x6	34x7
Dodge Bros DB1	2	1645	Own	6	3¾x4½	27.3	Pb	Zen	Vac	NE	Own	U	4	Own	Sp	36.83	4	D	165	4070	32x6	34x7
Dodge Bros. F 40 A	2	1995	Own	6	3½x5	31.5	Pb	Zen	P	DR	Own	U		Own	Sp	43.73	4	D	150	5175	6.50x20	6.50x20D
Dodge Bros. DB1	3	1845	Own	6	3⅜x4½	27.3	Pb	Zen	Vac	NE	Own	U	4	Own	Sp	46.31	4	D	135	4235	32x6	32x6D
Dodge Bros. DB1	3	1895	Own	6	3⅜x4½	27.3	Pb	Zen	Vac	NE	Own	U	4	Own	Sp	41.43	4	D	165	4520	32x6	32x6D
Dodge Bros. DB1	3	1945	Own	6	3⅜x4½	27.3	Pb	Zen	Vac	NE	Own	U	4	Own	Sp	46.31	4	D	185	4715	32x6	32x6D
Dodge Bros. DB1	3	2645	Own	6	3½x5	31.5	Pb	Zen	P	DR	Own	U		Own	Sp	48.87	4	D	146	5543	32x6	32x6D
Dodge Bros. F 60 A	3	2575	Own	6	3½x5	31.5	Pb	Zen	P	DR	Own	U		Own	Sp	48.87	4	D	170	5789	32x6	32x6D
Dodge Bros. F 61 A	3																					
Durant	¾	495	Con	4	3⅜x4¼	18.2	Pb	Til	Vac	Aut	Own	C	3	Own	Sp	16.16	4	4	107	1670	28x4.75	28x4.75
Essex Commercial	¾	445	Own	6	2⅞x4½	18.2	CS	Mar	Vac	Aut	Own	U	3	Own	Sp	17.8	4	4	110	2150	30x5	31x5.50
Fargo Packet	½	545	Own	6	3 x4⅛	21.6	Pb	Str	Vac	NE	Own	U	3	Own	Sp	14.29	4	Tr	——	1835	5.00x19	5.00x19
Fargo Clipper	¾	725	Own	6	3⅛x4¼	23.4	Pb	Str	Vac	DR	Own	U	3	Own	Sp	15.53	4	Tr	——	2325	5.50x18	5.50x18
Fargo Freighter	1	795	Own	6	3 x4⅛	21.6	Pb	Str	Vac	NE	Own	U	4	Own	Sp	37.19	4	Tr	——	2785	6.00x20	32x6
Federal E6	1½	1090	Con 17 E	6	3¾x4	27.3	Pb	Zen	Vac	DR	W-G T9	U	4	Cla B370	Sp	34.6	4	Tr	132	3260	6.00x20	32x6
Federal D	1-1½	830	Con W 10	4	3⅞x4¼	24.0	Pb	Zen	P	DR	W-G T9	U	4	Cla B372	Sp	40.8	4	Tr	131	3185	6.00x20	32x6
Federal F7	1½	1525	Con 16 C	6	3⅜x4⅝	27.3	Pb	Zen	P	DR	Own	U	4	Tim 52005H	Sp	24.3	4	Tr	132	3765	30x5	30x5D
Federal A6	2	1855	Con 16 C	6	3⅜x4⅝	27.3	Pb	Zen	Vac	DR	Own	C	4	Cla B610	Sp	38.5	4	Tr	151	4580	32x6	32x6D
Federal A6T	2½	2185	Con 16 C	6	3⅜x4⅝	27.3	Pb	Zen	Vac	DR	Own	C	4	Tim 58000H	Sp	41.3	4	Tr	151	4950	32x6	32x6D
Federal A6TW	2½	2360	Con 16 C	6	3⅜x4⅝	27.3	Pb	Zen	Vac	DR	Own	C	4	Tim 65001H	Wo	42.0	4	Tr	151	4950	32x6	32x6D
Federal T10B	2½-3	2740	Con 16 R	6	4 x4⅛	38.4	Pb	Zen	P	DR	Own	C	4	Tim 58000H	Sp	36.3	4	Tr	165	6550	34x7	34x7D
Federal T10W	2½-3	2915	Con 16 R	6	4 x4⅛	38.4	Pb	Zen	P	DR	Own	C	4	Tim 65001H	Wo	44.0	4	Tr	165	6550	34x7	34x7D
Federal U6	3-3½	3860	Con 18 R	6	4 x4½	38.4	Pb	Str	P	DR	Br-L 55	C	7	Tim 65706HP	Wo	64.6	4	D	165	7220	34x7	34x7D
Federal 4C6A	4-5	4735	Con 20 R	6	4⅛x4¾	40.8	Pb	Zen	P	DR	Br-L 55	C	7	Tim 66704HP	Wo	73.6	4	D	192	8330	36x8	36x8D
Federal 4C6AB	4-5	4960	Con 20 R	6	4⅛x4¾	40.8	Pb	Zen	P	DR	Br-L 55	C	7	Tim 66704TWP	Wo	73.6	4	D	192	8850	36x8	36x8D
*Federal U6SW	6	6000	Con 20 R	6	4⅛x4¾	40.8	Pb	Zen	P	DR	Br-L 55	C	7	Tim SW 200	Wo	71.3	6	Tr	201	9850	34x7	34x7D
*Federal U6SWAB	6	6500	Con 20 R	6	4⅛x4¾	40.8	Pb	Zen	P	DR	Br-L 55	C	7	Tim SW 200	Wo	71.3	4	Tr	201	9900	34x7	34x7D
Federal X8	7½	5085	Con B 7	4	5 x6	40	Pw	Zen	Vac	AB	Br-L 60	C	7	Tim 68700DP	Wo	110.9	R	D	162	9750	36x6S	40x14S
Federal X8R	7½	5810	Con 21 R	6	4⅜x4¾	45.9	Pb	Zen	P	DR	Br-L 60	C	7	Tim 68700DP	Wo	110.9	R	D	162	10000	40x8	40x8D
*Federal 4C6SW	8	7500	Con 21 R	6	4⅜x4¾	45.9	Pb	Zen	P	DR	Br-L 55	C	7	Tim SW 300	Wo	80.8	4	Tr	231	11500	36x8	36x8D

1930 COMMERCIAL CARS BUILT IN THE UNITED STATES

Make and Model	Capacity—Tons	Chassis Price	Engine	No. of Cyl.	Bore Stroke	Tax H. P.	Oil System	Carburetor	Fuel Feed	Ignit. System	Gear Set	Location	No. Spds. For.	Rear Axle	Final Drive	Reduction in Low	Brakes, Foot	Brakes, Hand	Standard Wheel Base	Chassis Weight	Standard Tire Sizes Front	Rear
Ford AA	1½	520	Own	4	3⅞x4¼	24.0	Sp	Zen	Gra	Own	Own	U	4	Own	St	42.24	4	R	131½	2792	6.00x20	32x6
Ford AA	1½	545	Own	4	3⅞x4¼	24.0	Sp	Zen	Gra	Own	Own	U	4	Own	St	42.24	4	R	157	2570	6.00x30	6.00x30D
F. W. D.—H	1½	3300	Wis S U	4	4 x5	25.6	Pb	Zen	Vac	Eis	Cotta	C	4	Own	St	38.1	4	R	121	5300	34x7	34x7
F. W. D.—H6	2	3425	Wak	6	3½x4½	29.4	Pb	Zen	Vac	Eis	Br-L	U	4	Own	St	35.0	4	R	133	5500	34x7	34x7
F. W. D.—BTL4	2	3900	Wis S U	4	4 x5	25.6	Pb	Zen	Vac	Eis	Br-L	C	7	Own	St	84.7	4	R	120	6000	36x8	36x8
F. W. D.—HH6	2½	4000	Wak	6	3¾x4½	33.7	Pb	Zen	Vac	Eis	Br-L	C	7	Own	St	101.0	4	R	133	5700	36x8	36x8
F. W. D.—B	3	4200	Own	4	4¾x5½	36.1	Pb	Str	Gra	Eis	Own	C	3	Own	St	35.6	4	R	124	6460	36x6S	36x6S
F. W. D.—B 5	3	4525	Own	4	4¾x5½	36.1	Pb	Str	Gra	Eis	Own	C	5	Own	St	88.6	4	R	132	6800	36x6S	36x6S
F. W. D.—B T	3	4742	Own	4	4¾x5½	36.1	Pb	Str	Vac	Eis	Own	C	5	Own	St	101.0	4	R	133¾	7700	40x7S	40x5SD
F. W. D.—U 4	3	4575	Own	4	4¾x5½	36.1	Pb	Str	Vac	Eis	Own	C	5	Own	St	88.6	4	R	148	7000	36x6S	36x6S
F. W. D.—C U 6	3½	5120	Wak	6	4 x4¾	38.6	Pb	Zen	Vac	Eis	Own	C	5	Own	St	88.6	4	R	148	7200	36x6S	36x8S
*F. W. D.—X 6	6	6500	Wak	6	4¼x4¾	43.3	Pb	Zen	Vac	Eis	Own	C	5	Own	St	88.6	*	4	170	9500	36x8	36x8
Garford Series S 11	1	1600	Bud H S 6	6	3⅜x4½	27.3	Pb	Zen	Vac	Aut	Br-L	U	4	Col	Sp	25.5	4	D	142	3900	36x5	30x5
Garford Series 40	1½	2990	Bud D S 6	6	3⅝x5	31.5	Pb	Zen	Vac	Aut	Br-L	U	4	Tim	Wo	34.8	4	D	168	4700	34x5	D34x5
Garford Series 40	2	3240	Bud D S 6	6	3⅝x5	31.5	Pb	Zen	Vac	Aut	Br-L	U	4	Tim	Wo	34.8	4	D	168	4900	36x6	D36x6
Garford Series 60	2½	4580	Bud B A 6	6	4⅛x5⅛	40.8	Pb	Zen	Vac	Aut	Ful	U	5	Tim	Wo	63.0	4	D	175	7000	36x6	D36x6
Garford Series 80	3½	5250	Bud B A 6	6	4⅛x5⅛	40.8	Pb	Zen	Vac	Aut	Br-L	C	7	Tim	Wo	98.2	4	D	175	8200	*S36x6	S36x12
Garford Series 100	5	5830	Bud B A 6	6	4⅛x5⅛	40.8	Pb	Zen	Vac	Aut	Br-L	C	7	Tim	Wo	95.0	4	D	175	9600	S36x6	S40x14
Gen. Mot. T11-1001	*3800	625	Pontiac	6	3⅛x3⅞	26.3	Pb	Mar	P	DR	Own	U	3	Pontiac	Sp	14.7	4	4	109⅝	1980	5.00x19B	5.50x19B
Gen. Mot. T15-1501	*5400	695	Pontiac	6	3⅛x3⅞	26.3	Pb	Mar	P	DR	Own	U	3	Tim 51500	Sp	16.14	4	4	130	2625	5.50x20B	5.50x20B
Gen. Mot. T17-1701	*5500	735	Pontiac	6	3⅛x3⅞	26.3	Pb	Mar	P	DR	Own	U	3	Tim 51505	Sp	16.04	4	4	130	2650	6.50x20B	6.50x20B
Gen. Mot. T19-2201	*6300	895	Pontiac	6	3⅛x3⅞	26.3	Pb	Mar	P	DR	Mun	U	4	Tim 5261	Sp	34.45	4	D	130	2850	5.50x20B	32x6
Gen. Mot. T17-1707	*6500	750	Pontiac	6	3⅛x3⅞	26.3	Pb	Mar	P	DR	Own	U	3	Tim 51505	Sp	16.04	4	4	130	2670	5.50x20B	32x6
Gen. Mot. T25-2501	*6800	1235	Buick	6	3⅛x4⅝	28.3	Pb	Mar	P	DR	Mun	U	4	Tim 5261	Sp	29.62	4	D	130	3375	6.00x20B	7.50x20B
Gen. Mot. T19-2214	*8500	985	Pontiac	6	3⅛x3⅞	26.3	Pb	Mar	P	DR	Mun	U	4	Tim 5261	Sp	34.45	4	D	130	2925	30x5	30x5D
Gen. Mot. T25-2509	*8500	1280	Buick	6	3⅛x4⅝	28.3	Pb	Mar	P	DR	Mun	U	4	Tim 5261	Sp	29.62	4	D	130	3425	30x5	30x5D
Gen. Mot. T30-3206	*9000	1555	Buick	6	3⅛x4⅝	28.3	Pb	Mar	P	DR	Mun	U	4	Eat 1617	Sp	28.6	4	D	141	4450	6.00x20B	8.25x20B
Gen. Mot. T42-4206	*10600	1735	Buick	6	3⅛x4⅝	28.3	Pb	Mar	P	DR	Mun	U	4	Eat 1717	Sp	33.38	4	D	141	4575	7.00x20B	9.00x20B
Gen. Mot. T30-3203	*11000	1605	Buick	6	3⅛x4⅝	28.3	Pb	Mar	P	DR	Mun	U	4	Eat 1617	Sp	28.6	4	D	141	4525	32x6	32x6D
Gen. Mot. T44-4401	*12000	1965	Buick	6	3⅛x4⅝	28.3	Pb	Mar	P	DR	Mun	U	4	Eat T44DR	2R	40.89	4	D	141	4825	32x6	32x6D
Gen. Mot. T42-4203	*14000	1960	Buick	6	3⅛x4⅝	28.3	Pb	Mar	P	DR	Mun	U	4	Eat 1717	Sp	33.38	4	D	141	4905	36x6	36x6D
Gen. Mot. T44-4404	*15000	2095	Buick	6	3⅛x4⅝	28.3	Pb	Mar	P	DR	Mun	U	4	Eat T44DR	2R	40.89	4	D	141	5095	34x7	34x7D
Gen. Mot. T60-6202	*16500	3035	Buick	6	3¾x5	33.7	Pb	Mar	P	DR	Mun	U	4	Tim 65706	Wo	52.53	4	D	154¼	6925	34x7	34x7D
Gen. Mot. T60-6205	*18500	3125	Buick	6	3¾x5	33.7	Pb	Mar	P	DR	Mun	U	4	Tim 65706	Wo	52.53	4	D	154¼	6925	9.00x20B	9.00x20DB
Gen. Mot. T82-8202	*19000	3795	Buick	6	3¾x5	33.7	Pb	Mar	P	DR	Br-L	C	5	Tim 66704	Wo	82.2	4	D	155	7500	9.00x20B	9.00x20DB
Gen. Mot. T82-8207	*22000	4070	Buick	6	3¾x5	33.7	Pb	Mar	P	DR	Br-L	C	5	Tim 66704	Wo	82.2	4	D	155	7850	38x7	38x9D
Gen. Mot. T90-9001	*23000	5885	Buick	6	3¾x5	33.7	Pb	Mar	P	DR	Br-L	C	5	Tim SW-200	Wo	76.04	WR	D	185¼	9400	7.50x20B	7.50x20D
Gen. Mot. T90-9004	*28000	6055	Buick	6	3¾x5	33.7	Pb	Mar	P	DR	Br-L	C	5	Tim SW-200	Wo	76.04	WR	D	185¼	9775	8.25x20B	8.25x20DB
*Gramm B	1½	1495	Lyc 4 SL	6	3¼x4½	25.3	Pb	Zen	Vac	Aut	Cov	U	4	Tim	Sp	34.3	4	Tr	140	3800	30x5	30x5D
*Gramm C	2	1795	Lyc ASA	6	3⅝x4½	31.54	Pb	Zen	P	Aut	Cov	U	4	Tim	Sp	31	4	Tr	160	4820	32x6	32x6D
*Gramm D	2½	2195	Lyc TS	6	3⅞x5	36	Pb	Zen	P	Aut	Cov	U	4	Tim	Sp	33	4	Tr	160	5100	32x6	32x6D
*Gramm E	3	2595	Lyc TS	6	3⅞x5	36	Pb	Zen	P	Aut	Ful	U	4	Tim	Sp	35	4	Tr	160	5300	34x7	34x7D
*Gramm EY	3	3595	Con 20 R	6	4⅛x4¾	40.80	Pb	Zen	P	Aut	Ful	U	4	Tim	Sp	30	4	D	190	6750	32x6	32x6D
*Gramm T-38	3	3595	Lyc TS	6	3⅞x5	36	Pb	Zen	P	Aut	Ful	U	4	Wis	2R	45	D	R	153	7200	36x5S	36x10S
*Gramm O-45	4	3995	Lyc TS	6	3⅞x5	36	Pb	Zen	P	Aut	Ful	C	8	Wis	2R	75.8	D	R	153	7700	36x5S	36x12S
*Gramm GY	4	4345	Con 21 R	6	4⅜x4¾	45.9	Pb	Zen	P	Aut	Ful	U	4	Wis	2R	28	4	D	210	7200	34x7	34x7D
*Gramm O-60	5	4745	Lyc TS	6	3⅞x5	36	Pb	Zen	P	Aut	Ful	C	8	Wis	2R	78.4	D	R	153	8800	36x6S	36x14S
*Gramm HY	5	6545	Con 16 H	6	4¾x5¾	54.15	Pb	Zen	P	Aut	Ful	U	4	Wis	2R	25.2	4	D	236	9600	36x8	36x8D
Indiana 64	1	1195	Con	6	3⅜x4⅝	27.3	Pb	Str	Vac	Aut	Br-L	U	3	Col	Sp	21.3	4	Tr	137	3435	30x5	30x5
Indiana 74	1¼	1290	Con	6	3⅜x4⅝	27.3	Pb	Str	Vac	Aut	Br-L	U	4	Col	Sp	25.6	4	Tr	137	3450	32x6	32x6
Indiana 11	1¼	1425	Her	4	4 x5	25.6	Pb	Str	Gra	Aut	Br-L	U	3	Cla	Sp	24.48	R	R	129½	3500	30x5	30x5
Indiana 89	1½	1525	Con	6	3⅜x4⅝	27.3	Pb	Str	Vac	Aut	Br-L	U	4	Col	Sp	25.6	4	Tr	149	3650	32x6	32x6
Indiana 111	1½	1630	Her	4	4 x5	25.6	Pb	Str	Gra	Aut	Br-L	U	3	Cla	Sp	26.4	R	R	129½	3600	30x5	32x6
Indiana 111 XW	2	1850	Her	4	4 x5	25.6	Pb	Str	Vac	Eis	Br-L	U	4	Wis	2R	30.14	R	Tr	120	3740	32x6	32x6D
Indiana 120	2	1990	Con	6	4 x4⅛	38.4	Pb	Str	P	Aut	Br-L	U	4	Tim	Sp	—	4	Tr	156	5200	32x6	32x6D
Indiana 140	2	2495	Con	6	4 x4⅛	38.4	Pb	Str	P	Aut	Br-L	U	4	Wis	2R	—	4V	Tr	156	5500	32x6	32x6D
Indiana 115 A	2½	2740	Her	4	4¼x5	28.9	Pb	Str	Vac	Eis	Br-L	U	4	Cla	Sp	42.99	R	Tr	132	4970	32x6	34x7D
Indiana 615 A	2½	3070	Wis	6	3⅜x5	27.34	Pb	Str	Vac	Eis	Br-L	U	4	Cla	Sp	46.29	R	Tr	136	5160	32x6	32x6D
Indiana 170	2½	3160	Con	6	4⅛x4¾	40.8	Pb	Str	P	Aut	Br-L	U	4	Wis	2R	—	4HV	D	170	6800	32x6	32x6D
Indiana 127 AW	3	3775	Her	4	4¼x5	28.90	Pb	Str	Vac	Eis	Br-L	U	5	Wis	2R	41.72	RV	D	158¼	7000	34x7	34x7D
Indiana 627 AW	3	4075	Wis	6	4 x5	38.40	Pb	Str	Vac	Eis	Br-L	U	5	Wis	2R	41.72	RV	D	156¼	7200	34x7	34x7D
Indiana J95	3	3820	Con	6	4⅛x4⅝	40.8	Pb	Str	P	Aut	Br-L	U	4	Wis	2R	—	4HV	D	170	7500	34x7	34x7D
Indiana 190	3	4185	Con	6	4⅛x4⅝	40.8	Pb	Str	P	Aut	Br-L	C	7	Tim	Wo	—	RV	D	168½	7625	34x7	34x7D
Indiana 220	3½	4560	Con	6	4⅝x4¾	45.9	Pb	Str	P	Aut	Br-L	U	4	Wis	2R	—	4HV	D	170	8200	36x8	36x8D
Indiana 250	5	5950	Con	6	4⅝x4¾	45.9	Pb	Str	P	Aut	Br-L	U	4	Tim	Wo	—	4HMV	D	182	10000	40x8	40x8D
Indiana 280	7	7250	Con	6	4¾x5¾	54.15	Pb	Str	P	L-N	Br-L	C	7	Tim	Wo	—	4W	D	182	10750	38x7	40x14S
Indiana 640	10	9700	Con	6	4¾x5¾	54.15	Pb	Str	P	L-N	Br-L	C	7	Tim	Wo	—	4RW	D	212	14000	38x7	36x10S
International AW-1	¾	720	Wak X A	4	3½x4½	19.6	Pb	Zen	Vac	DR	Mec	U	3	Eat 517	Sp	17.4	4	2	136	2620	5.25x20	5.25x20
Int. Harvester Sp. Del.	¾	720	Wak X A	4	3½x4½	19.6	Pb	Zen	Vac	DR	Mec	U	3	Eat 502 R	Sp	15.1	4	2	124	2200	30x5.25	30x5.25
Int. Harv. 6 Spd. Spec.	1	820	Wak X A	4	3½x4½	19.6	Pb	Zen	Vac	DR	Mec	U	3	Eat 1124	Sp	52.6	4	2	124	2430	30x5	30x5
Int. Harvester S-24	1¼	1160	Lyc C T	4	3¾x5	22.5	Pw	Zen	Vac	DR	Own	U	3	Eat 1002	Sp	21.3	4	2	130	3200	30x5	30x5
Int. Harvester S-26	1¼	1310	Lyc 4 S L	6	3¼x4½	25.3	Pb	Zen	Vac	DR	Own	U	3	Eat 1002	Sp	21.3	4	2	130	3250	30x5	30x5
Int. Harvester SF-34	1½	1450	Lyc C T	4	3¾x5	22.5	Pw	Zen	Vac	DR	Own	U	3	Eat 1502	Sp	22.6	4	2	140	3520	30x5	32x6
International AL-3	1½	1450	Lyc SLH	6	3¼x4½	25.3	Pb	Zen	Vac	DR	W-G	U	4	Eat 1518	Sp	42.9	4	2	138	4300	6.00x20	6.00x20D
Int. Harvester SF-36	1½	1600	Lyc 4 S L	6	3¼x4½	25.3	Pb	Zen	Vac	DR	Own	U	3	Eat 1502	Sp	22.6	4	2	140	3570	30x5	32x6
Int. Harvester SD-44	2	1590	Lyc C T	4	3¾x5	22.5	Pw	Zen	Vac	AB	Own	U	4	Eat 2002	Sp	40.6	4	2	117	3700	30x5	32x6
Int. Harvester SD-46	2	1740	Lyc 4 S L	6	3¼x4½	25.3	Pb	Zen	Vac	AB	Own	U	4	Eat 2002	Sp	40.6	4	2	117	3750	30x5	32x6
Int. Harvester SF-46	2	1950	Lyc 4 S L	6	3¼x4½	25.3	Pb	Zen	Vac	DR	Own	U	4	Eat 2002	Sp	40.6	4	2	140	4000	32x6	32x6D
Int. Harvester A-4	2	1985	Own-FBB	6	3⅝x4½	31.5	Pb	Zen	Vac	DR	Own	U	5	Eat 1712	Sp	47.8	4	2	145	5070	32x6	32x6D
Int. Harvester HS-54	2½	3850	Hall-S 151	4	4¼x5½	28.9	Pb	Zen	Vac	RB	Own	U	5	Eat 54	2R	60.5	4	4	148	8000	36x5S	36x8S
Int. Harvester HS-54-C	2½	3850	Hall-S 151	4	4¼x5½	28.9	Pb	Zen	Vac	RB	Own	U	5	Own A M 428	Ch	63.8	4	4	148	8665	36x5S	36x10S
Int. Harvester W-1	2½	3850	Hall-S 151	4	4¼x5½	28.9	Pb	Zen	Vac	RB	Own	U	5	Eat 58	2R	60.5	4	2	148	8300	36x5S	36x8S
Int. Harvester A-5	3	2550	Own-FBB	6	3⅝x4½	31.5	Pb	Zen	Vac	DR	Own	U	5	Eat 2112	Sp	52.6	4	2	156	5606	34x7	34x7D
Int. Harvester HS-74	3½	4850	Hall-S 152	4	4¾x5½	36.1	Pb	Zen	Vac	RB	Own	U	5	Eat 74	2R	70.5	4	4	160	10700	36x5S	40x12S
Int. Harvester HS-74-C	3½	4850	Hall-S 152	4	4¾x5½	36.1	Pb	Zen	Vac	RB	Own	U	5	Own A M 427	Ch	79.1	4	4	160	11000	36x6S	40x12S
Int. Harv's'r HS-104-C	5	5500	Hall-S 152	4	4¾x5½	36.1	Pb	Zen	Vac	RB	Own	U	5	Own A M 427	Ch	90.5	4	4	160	11095	36x6S	40x14S
La France-Repub. A-1	*6000	990	Lyc	6	2⅞x4¾	19.8	Pb	Zen	Vac	Aut	Ful	U	4	Tim	Sp	36.1	4	Tr	132	3000	5.50x20	32x6
La France-Repub. C-1	*7000	1295	Lyc	6	3¼x4½	25.4	Pb	Zen	Vac	Aut	Br-L	U	4	Tim	Sp	29.1	4	Tr	144	3300	6.00x20	32x6
La France-Repub. D-1	*9000	1595	Lyc	6	3¼x4½	25.4	Pb	Zen	Vac	Aut	Ful	U	4	Tim	Sp	37.9	4	Tr	144	3725	30x5	30x5D
La France-Repub. F-2	*13000	2395	Lyc	6	3⅝x5	31.5	Pb	Zen	Vac	Aut	Ful	U	4	Tim	Sp	40.1	4	D	174	5870	32x6	32x6D
La France-Repub. H-1	*15000	2985	Lyc	6	3⅞x5	36.0	Pb	Zen	Vac	Aut	Ful	U	4	Eat	Sp	36.0	4	D	163	5850	34x7	34x7D
La France-Repub. L-1	*18000	2595	Lyc	6	3⅞x5	36.0	Pb	Zen	Vac	Aut	Ful	U	4	Eat	2R	48.0	4	D	180	6900	36x8	36x8D
La France-Repub. M-1	*20000	3800	Wak	6	4 x4¾	38.4	Pb	Zen	Vac	Aut	Ful	U	5	Eat	2R	62.3	R	D	171	6900	36x8	36x8D
Mack BL	1	2500	Own	6	3¼x5	25.39	Pw	Str	Vac	NE	Own	U	4	Own	Sp	Opt	4	D	148	—	B6.00x20	DB6.00x20
†'Mack BG	1½	3000	Own	6	3⅝x5	31.57	Pw	Str	Vac	NE	Own	U	4	Own	Sp	Opt	4	D	138-156	—	32x6	D32x6
Mack AB	2½-3	3950	Own	4	4¼x5	28.9	Pb	Str	Gra	RB	Own	U	4	Own	2R	Opt	R	D	2-Opt	—	36x4S	36x8S
††Mack AB	2½-3	3500	Own	4	4¼x5	28.9	Pb	Str	Gra	RB	Own	U	4	Own	Ch	Opt	R	D	2-Opt	—	36x4S	36x8S
Mack AB	2½-3	4750	Own	6	3⅝x5	31.57	Pw	Str	Vac	NE	Own	U	4	Own	2R	Opt	R	D	2-Opt	—	34x7	D34x7
††Mack AB	2½-3	4300	Own	6	3⅝x5	31.57	Pw	Str	Vac	NE	Own	U	4	Own	Ch	Opt	R	D	2-Opt	—	34x7	D34x7
††Mack BC	3½-4	4250	Own	4	4¼x5	28.9	Pb	Str	Gra	RB	Own	U	4	Own	2R	Opt	4	D	2-Opt	—	36x5S	36x5DS
††Mack BC	3½-4	5250	Own	6	4 x5½	38.4	Pb	Str	Vac	NE	Own	U	4	Own	2R	Opt	4	D	2-Opt	—	34x7	D36x8
††Mack BJ	3½-5	6150	Own	6	4½x5½	48.6	Pb	Str	Vac	NE	Own	C	4	Own	2R	Opt	4	D	3-Opt	—	36x8	36x8D
††Mack AK	3½-5	5150	Own	4	5 x6	40.0	Pb	Str	Gra	RB	Own	J	4	Own	Ch	Opt	4	J	3-Opt	—	36x5S	36x5DS
††Mack AK	3½-5	5250	Own	4	5 x6	40.0	Pb	Str	Gra	RB	Own	C	4	Own	2R	Opt	4	D	3-Opt	—	36x5S	36x5DS
††Mack AC	3½-5	4950	Own	4	5 x6	40.0	Pb	Str	Gra	RB	Own	J	4	Own	Ch	Opt	J	R	3-Opt	—	36x5S	40x10S
††Mack AC	5½-7	5500	Own	4	5 x6	40.0	Pb	Str	Gra	RB	Own	J	4	Own	Ch	Opt	J	R	3-Opt	—	36x6S	40x12S
††Mack AC	7½	6000	Own	4	5 x6	40.0	Pb	Str	Gra	RB	Own	J	4	Own	Ch	Opt	J	R	3-Opt	—	36x7S	40x14S
††Mack AP	7½	9500	Own	6	5 x6	60.0	Pb	Str	Gra	NE	Own	J	4	Own	Ch	Opt	R	J	191	—	36x7S	40x8DS
Mack A C 6-wheel	10	7500	Own	4	5 x6	40.0	Pb	Str	Gra	RB	Own	J	4	Own	Ch	Opt	4R	J	3-Opt	—	36x7S	40x12S
Mack AP 6-wheel	10	12000	Own	6	5 x6	60.0	Pb	Str	Gra	NE	Own	J	4	Own	Ch	Opt	4R	J	3-Opt	—	36x7	40x12S
Paige	¾	860	Own	6	3¼x4½	25.35	Pb	DL	P	DR	W-G	U	3	Sal	Sp	17.36	4	Tr	115	2465	B5.50x19	B5.50x19
Relay Series 15	¾	1370	Con 17 E	6	3⅜x4	27.3	Pb	Str	Vac	Aut	W-G	U	4	Own	R	38.4	4	D	131	3750	30x5P	30x5P

Major Specifications and Mechanical Details of 1930 Commercial Cars Built in the United States

Make and Model	Capacity—Tons	Chassis Price	Engine	No. of Cyl.	Bore and Stroke	Tax H. P.	Oily System	Carburetor	Fuel Feed	Ignit. System	Gear Set	Location	No. Spds. For.	Rear Axle	Final Drive	Reduction in Low	Brakes, Foot	Brakes, Hand	Standard Wheel Base	Chassis Weight	Standard Tire Sizes Front	Rear
Relay Series 15	1	1400	Con 17 E	6	3⅜x4	27.3	Pb	Str	Vac	Aut	W-G	U	4	Own	R	38.4	4	D	139	3300	30x5P	30x5P
Relay Series 40	1½	2900	Bud D S 6	6	3⅝x5	31.5	Pb	Zen	Vac	Aut	Br-L	U	4	Own	R	34.5	4	D	168	5300	34x5	D34x5
Relay Series S 11	2	2030	Bud H S 6	6	3⅜x4½	27.3	Pb	Zen	Vac	Aut	Br-L	U	4	Own	R	30.0	4	D	162	4700	32x6	D32x6
Relay Series 50	2	3860	Bud D W 6	6	3¾x5	33.7	Pb	Zen	Vac	Aut	Br-L	U	5	Own	R	58.5	4	D	161	6800	36x6	D36x6
Relay Series 60	2½	4555	Bud B A 6	6	4 x5⅛	40.8	Pb	Zen	Vac	Aut	Ful	U	5	Own	R	63.7	4	D	175	7350	36x6	D36x6
Relay Series 80	3	5330	Bud B A 6	6	4⅛x5⅛	40.8	Pb	Zen	Vac	Aut	Br-L	U	8	Own	R	84.18	4	D	175	8400	36x6	S40x10
Relay Series 80	4	5380	Bud B A	6	4⅛x5⅛	40.8	Pb	Zen	Vac	Aut	Cov	C	8	Own	R	84.18	4	D	175	8800	38x7	S40x14
Relay Series 100	5	6615	Con 21 R	6	4⅜x4¾	45.9	Pb	Str	Vac	Aut	Ful	U	5	Own	R	63.7	4	D	230	10000	9.00x24	D9.75x24
Reo D F 129	½	1095	Own	6	3⅜x5	27.3	Pb	Sch	P	DR	Own	U	3	Own	Sp	17.1	4	Tr	129	——	6.00x20	32x6
Reo 15 Junior	½	785	Con 16 E	6	3⅜x4	27.3	Pb	Sch	P	DR	W-G	U	3	Sal	Sp	14.63	4	Tr	115	2290	6.00x18	6.00x18
Reo D F	1	1095	Own C B	6	3¾x5	27.3	Pb	Sch	P	DR	Own	U	3	Own	Sp	17.1	4	Tr	135	3200	6.00x20	32x6
Reo F A	1½	1295	Own	6	3¾x5	27.3	Pb	Sch	Vac	DR	Own	U	4	Own	Sp	22.96	4	Tr	135	3525	6.50x20	32x6
Reo F E	1½	1395	Own	6	3¾x5	27.3	Pb	Sch	Vac	DR	Own	U	4	Own	Sp	22.96	4	Tr	152	3700	6.50x20	32x6
Reo F F	1½	1395	Own	6	3¾x5	27.3	Pb	Sch	Vac	DR	Own	U	4	Own	Sp	22.96	4	Tr	156	3750	6.50x20	32x6
Reo F H	2	1595	Own	6	3¾x5	27.3	Pb	Sch	Vac	DR	Own	U	4	Own	Sp	37.6	4	Tr	142	4165	32x6	32x6D
Reo F C	2	1645	Own	6	3¾x5	27.3	Pb	Sch	Vac	DR	Own	U	4	Own	Sp	37.62	4	Tr	152	4025	32x6	32x6D
Reo F D	2	1745	Own	6	3¾x5	27.3	Pb	Sch	Vac	DR	Own	U	4	Own	Sp	37.62	4	Tr	168	4075	32x6	32x6D
Reo G A	3	3035	Own	6	3¾x5	27.3	Pb	Sch	Vac	DR	Own	U	4	Own	Sp	41.05	4	Tr	163	4625	32x6	32x6D
Reo G C	3	2140	Own	6	3¾x5	27.3	Pb	Sch	Vac	DR	Own	U	4	Own	Sp	41.05	4	Tr	179	4850	32x6	32x6D
Reo G D	3	1985	Own	6	3¾x5	27.3	Pb	Sch	Vac	DR	Own	U	4	Own	Sp	46.2	4	Tr	144	4570	32x6	32x6D
Reo G C S	3	2375	Own	6	3⅝x5	27.3	Pb	Sch	Vac	DR	Own	U	4	Own	Sp	41.05	4	Tr	210	5320	32x6	32x6D
Rugby T	½	655	Con	6	3¼x4	25.4	Pb	Str	P	Aut	Own	U	3	Own	Sp	15.6	4	4	——	2160	29x5	29x5
Rugby 6-15	1	865	Con	6	3¼x4	25.4	Pb	Str	P	Aut	Br-L	U	4	Sal	Sp	34.49	4	Tr	135	2900	20x5.50	32x6
Rugby 615	1½	930	Con	6	3¼x4	25.4	Pb	Str	P	Aut	Br-L	U	4	Sal	Sp	34.49	4	Tr	135	3000	5.50x20	30x5D
Selden 7 C	1	1098	Con	6	2⅝x4¾	19.84	Pb	Zen	Vac	Aut	Br-L	U	3	Tim	Sp	—	4	D	124	3600	30x5	30x5
Selden 17 C	1½	1500	Con	6	3⅜x4	27.3	Pb	Zen	Vac	Aut	Br-L	U	4	Tim	Sp	—	4	D	142	3000	32x6	32x6
Selden 317 C	1½	1610	Con	6	3⅜x4⅝	27.34	Pb	Str	Vac	Aut	Br-L	U	4	Tim	Sp	—	4	D	142	3900	32x6	32x6
Selden 37 C	2	1935	Con	6	3⅜x4⅝	27.34	Pb	Str	Vac	Aut	Br-L	U	4	Tim	Sp	—	4	D	151	4800	32x6	32x6D
Selden 39 C	2½	2920	Con	6	4 x4⅛	38.4	Pb	Str	Vac	Aut	Br-L	U	4	Tim	Sp	—	4	D	164	5800	32x6	32x6D
Selden 47 C B	3½	3785	Con	6	4 x4½	38.4	Pb	Str	Vac	Aut	Br-L	U	4	Tim	Sp	—	4	D	171	7200	34x7	34x7D
Selden 47 C D	4	4435	Con	6	4 x4½	38.4	Pb	Str	Vac	Aut	Br-L	U	5	Wis	2R	—	4	D	171	7600	36x8	36x8D
Selden 67 C	5	4975	Con	6	4⅜x4¾	45.94	Pb	Str	Vac	Aut	Br-L	C	7	Wis	2R	—	4	D	171	8700	36x8	36x8D
Selden 77	7	7365	Con	6	4¾x5¾	54.15	Pb	Str	Vac	Aut	Br-L	C	7	Wis	2R	—	4	D	178	12000	36x7	40x7D
Service Series S 11	1	1600	Bud H S 6	6	3⅜x4½	27.3	Pb	Zen	Vac	Aut	Br-L	U	4	Col	Sp	25.5	4	D	142	3900	30x5	30x5
Service Series 40	1½	2990	Bud D S 6	6	3⅝x5	31.5	Pb	Zen	Vac	Aut	Br-L	U	4	Tim	Wo	34.8	4	D	168	4700	34x5	D34x5
Service Series 60	2½	4580	Bud B A 6	6	4⅛x5⅛	40.8	Pb	Zen	Vac	Aut	Ful	U	5	Tim	Wo	63.0	4	D	175	7000	36x6	36x6
Service Series 80	3½	5250	Bud B A 6	6	4⅛x5⅛	40.8	Pb	Zen	Vac	Aut	Br-L	C	7	Tim	Wo	98.2	4	D	175	8200	S36x6	S36x12
Service Series 80	4	5330	Bud B A 6	6	4⅛x5⅛	40.8	Pb	Zen	Vac	Aut	Br-L	C	7	Tim	Wo	98.2	4	D	175	8400	S36x6	S36x14
Service Series 100	5	5830	Bud B A 6	6	4⅛x5⅛	40.8	Pb	Zen	Vac	Aut	Br-L	C	7	Tim	Wo	95.0	4	D	175	9600	S36x6	S40x14
Stewart 30	1	695	Lyc AFE	4	3¾x4½	22.5	Pb	Str	Vac	DR	W-G	U	4	Sal	Sp	35.1	4	D	130	2905	6.50x20	6.50x20
Stewart 30 X	1	795	Lyc WRG	6	2⅞x4¾	19.8	Pb	Str	Vac	DR	W-G	U	4	Sal	Sp	35.1	4	D	130	2965	6.50x20	6.50x20
Stewart 40	1½	895	Lyc AFE	4	3¾x4½	22.5	P	Str	Vac	DR	W-G	U	4	Cla	Sp	35.1	4	D	130	3215	6.50x20	6.50x20D
Stewart 34 X	1½	1195	Lyc 4 SL	6	3¼x4½	25.3	Pb	Str	Vac	DR	W-G	U	4	Cla	Sp	35.1	4	D	145	3526	6.50x20	6.50x20
Stewart 28 X	1¾	1495	Lyc 4 SL	6	3¼x4½	25.3	Pb	Str	Vac	DR	Ful	U	4	Cla	Sp	44.1	4	D	136	3840	6.50x20	6.50x20
Stewart 29XS	2	1695	Lyc ASA	6	3⅜x4½	25.3	Pb	Str	P	DR	Ful	U	4	Cla	Sp	44.1	4	D	145	4188	32x6	32x6D
Stewart 26 XW	2	2290	Lyc TF	6	3⅝x5	31.5	Pw	Str	Vac	DR	Ful	U	4	Tim	Wo	48.1	4	D	165	5095	32x6	32x6D
*Stewart 18 X	2½	2690	Lyc TF	6	3⅝x5	31.5	Pw	Str	Vac	DR	Ful	U	4	Tim	Wo	48.1	4	D	165	5788	32x6	32x6D
Stewart 32 X	2½	1990	Lyc ASA	6	3⅝x4½	31.54	Pw	Str	Vac	DR	Ful	U	4	Cla	Sp	46.1	4	D	165	5100	32x6	32x6D
Stewart 33 X	3	3290	Lyc TS	6	3⅞x5	36.2	Pw	Str	Vac	DR	Ful	U	4	Tim	Wo	105.1	4	D	165	6450	34x7	34x7D
Stewart 19 X	3½	3690	Lyc TS	6	3⅞x5	36.2	Pw	Str	Vac	DR	Ful	C	12	Tim	Wo	105.1	4	D	165	6990	36x5	36x10
Stewart 31 X	5	4990	Wak 6 RSL	6	4⅜x5⅛	45.9	Pw	Str	Vac	DR	Ful	C	8	Tim	Wo	82.1	4	D	165	8400	36x6S	36x6SD
Stewart 27 X	6-7	5700	Wak 6 RSL	6	4⅜x5⅛	45.99	Pw	Str	Vac	DR	Ful	U	8	Tim	Wo	93.81	4	D	165	9927	36x7	40x7D
Studebaker GN-P	¾	845	Own	6	3¾x4⅛	27.3	Pb	Str	P	DR	Own	U	3	Own	Sp	15.15	4	‡4	115	2465	6.00x19	6.00x19
Studebaker GN-S	1	1045	Own	6	3¾x4⅛	27.3	Pb	Str	P	DR	Own	U	3	Own	Sp	13.8	4	D	130	2990	6.00x20	30x5
Studebaker GK-N	1	1095	Own	6	3¾x4⅛	27.3	Pb	Str	P	DR	Own	U	3	Own	Sp	13.8	4	D	146	3000	30x5	30x5
Studebaker S-20	1½	695	Own	6	3¼x4⅛	25.4	Pb	Str	P	DR	W-G	U	4	Tim	Sp	36.2	4	4	130	3000	6x20	32x6
Studebaker S-30	1½	775	Own	6	3¼x4⅛	25.4	Pb	Str	P	DR	W-G	U	4	Tim	Sp	36.2	4	4	160		6x20	32x6
Studebaker S-50	2	895	Own	6	3¼x4⅛	25.4	Pb	Str	P	DR	W-G	U	4	Tim	Sp	37.4	4	4	148		6.50x20	6.50x20D
Studebaker S-60	2	945	Own	6	3¼x4⅛	25.4	Pb	Str	P	DR	W-G	U	4	Tim	Sp	37.4	4	4	160		6.50x20	6.50x20D
Studebaker GN-N	*4000	1245	Own	6	3¾x4¼	27.3	Pb	Str	P	DR	Cla	U	4	Cla	Sp	33.5	4	D	146	3265	30x5	32x6
Studebaker 77	*12500	2895	Own	8	3½x4¾	39.2	Pb	Str	P	DR	Ful	U	4	Eat	Sp	24.6	4V	D	158	5030	7.00x20	7.00x20D
Studebaker 88	*12500	3295	Own	8	3½x4¾	39.2	Pb	Str	P	DR	Ful	U	4	Eat	Sp	24.6	4V	D	184	5200	7.50x20	7.50x20D
Studebaker 99	*14000	3795	Own	8	3½x4¾	39.2	Pb	Str	P	DR	Ful	U	4	Eat	Sp	24.6	4V	D	184	5680	7.50x20	7.50x20D
Whippet 96 A	½	360	Own 96 A	4	3⅛x4⅜	15.6	Pb	Til	Vac	Aut	Own	U	3	Own	Sp	14.74	4	R	103¼	1691	4.75x19	4.75x19
White 15 B		1545	Own GKA	4	3¾x5⅛	22.5	CS	Zen	Vac	L-N	Own	C	4	Own	Sp	18.6	R	R	133½	3402	30x5	30x5
White 60		1850	Own 2 A	6	3½x4½	29.4	Pw	Zen	Vac	DR	Own	U	3	Own	Sp	17.9	4	D	138	3739	30x5	30x5
White 57		2725	Own GRC	4	4 x5¾	25.6	Pw	Zen	Vac	L-N	Own	U	4	Own	Sp	19.3	R	R	146	3935	32x6	32x6
White 20 A		2125	Own GKA	4	3¾x5¼	22.5	CS	Zen	Vac	L-N	Own	C	4	Own	2R	32.1	R	R	145½	4572	34x5	34x5D
White 61		2450	Own 4 A	6	3¾x4½	33.75	Pw	Zen	Vac	DR	Own	U	4	Own	Sp	23.4	4	D	148	4789	30x5	30x5D
White 56		3125	Own GRC	4	4 x5¾	25.6	Pw	Zen	Vac	Mag	Own	U	4	Own	Sp	26.2	R	D	165	5276	36x4S	36x7S
White 51 A		3750	Own GRB	4	4¼x5¾	28.9	Pw	Zen	Vac	Mag	Own	U	4	Own	Sp	35.6	R	D	170	6438	36x5S	36x9S
White 58		4400	Own GRB	4	4¼x5¾	28.9	Pw	Zen	Vac	Mag	Own	U	4	Own	IG	49.7	D	R	170	6438	36x5S	36x9S
White 55		4650	Own GRB	4	4¼x5¾	28.9	Pw	Zen	Vac	Mag	Own	U	4	Own	IG	66.1	D	R	174	8737	36x5S	40x5SD
White 52 T		4700	Own GRB	4	4¼x5¾	28.9	Pw	Zen	Vac	Mag	Own	U	4	Own	IG	76.5	D	R	129½	8461	36x5S	40x5SD
White 52		5100	Own GRB	4	4¼x5¾	28.9	Pw	Zen	Vac	Mag	Own	U	5	Own	IG	92.3	D	R	174	9409	36x6S	40x12S
White 59 A		6000	Own 3 A	6	4 x5¼	38.4	Pw	Zen	P	DR	Own	U	4	Own	Sp	66.5	D	R	155	9775	40x8	40x14S
White 63		5000	Own 3 A	6	4 x5¼	38.4	Pw	Zen	P	DR	Own	U	4	Own	Sp	41.4	4	D	168	8350	34x7P	34x7DP
White 64		6300	Own 1 A	6	4¾x5¾	45.94	Pw	Zen	P	LN	Own	U	4	Own	2R	46.8	4	D	180	9154	36x8P	36x8DP
Willys Six 98 B	¾	525	Own 98 B	6	3¼x3⅞	25.35	Pb	Til	Vac	Aut	Own	U	3	Own	Sp	14.28	4	B	110	1903	5.50x19	5.00x19
Willys Six C-101	1½	695	Own 98 B	6	3¼x3⅞	25.35	Pb	Til	Vac	Aut	Own	U	4	Cla	Sp	36.12	4	B	131	2675	5.50x20	30x5
Willys-Knight T-103	1½	825	Own KGT	6	2⅞x4¾	20.7	Pb	Til	Vac	Aut	Cov	U	4	Cla	Sp	42.33	4	B	131	2808	5.50x20	30x5

GENERAL NOTATIONS

*†REFERENCE MARKS apply to individual lines only and explanations are given under the subdivision for each company in the "SPECIAL NOTATIONS."

CAPACITIES given in this table are in tons or fractions of tons. *Shows maximum allowable gross weight in pounds.

WHEEL BASES given are standard, but optional wheel bases are available in many cases.

ENGINE—Bud, Buda; Con, Continental; Her, Hercules; Kgt, Knight; Lyc, Lycoming; Wak, Waukesha; Wis, Wisconsin; Hall, American Car & Foundry.

LUBRICATION—Pb, pressure lubrication to main and connecting rod bearings; Pw, full pressure lubrication to all main, connecting rod and camshaft bearings, including wrist pins; SC, circulating splash; Sp, splash.

CARBURETOR—Car, Carter; Mar, Marvel; Sch, Wheeler-Schebler; Str, Stromberg; DL, Detroit Lubricator; Til, Tillotson; Zen, Zenith-Detroit.

FUEL FEED—Gra, Gravity; Vac, Vacuum tank; P, Fuel pump.

IGNITION — AB, American-Bosch; Aut, Electric Auto-Lite; Eis, Eisemann; L-N, Lasco-Reville; N-E, North East; RB, Robert Bosch; DR, Delco-Remy; Mag, Magneto.

TRANSMISSION—Br, L, Brown-Lipe; Cov, Covel; Ful, Fuller; Mec, Mechanics Machine; Muo, Muncie; W-G, Warner Gear, Cotta, Cotta Gear Company.

LOCATION—C, center, amid; U, in unit with engine; J, on jackshaft.

REAR AXLE—Cla, Clark Equipment; Col, Columbia; Eat, Eaton; Sal, Salisbury; Tim, Timken; Wis, Wisconsin.

FINAL DRIVE—IG, Internal gear; St, Straight bevel; Sp, Spiral bevel; Wo, Worm; 2R, Double reduction; Ch, Chain; R, Relay drive.

BRAKES—J, Jackshaft; R, Rear wheels; D, Drive shaft; 4, four-wheel; Tr, Transmission; V, Vacuum booster; W, Westinghouse air brake; B, Both front and rear wheels.

TIRES—B, Balloon; D, Dual; S, Solid; P, Pneumatic.

SPECIAL NOTATIONS

AMERICAN-LA FRANCE

*Chief model also available as 2½-ton model, 34x7 tire, dual rear, weight 6,400. Price $3,900

Chieftain model also available as Dump Truck, 160-inch wheel base.

Balloon tires optional on Chief, Chieftain and Big Chief models.

AUSTIN

*Price includes body.

AUTOCAR

*Engines in these models are located under the driver's seat.

DAY-ELDER

Models OF and HF also available in 136-inch wheel base.

Model JF also available in the following wheel bases: 165, 180 and 204.

Model XF also available in 202-inch wheel base and tractor 149.

DURANT LINE

*Price includes panel body.

DODGE

Dodge Model F 36 A to D is available on 165-inch wheel base. Model F 41 A to E is available on 165-inch wheel base. Model F 61 A to E is available on 170-inch wheel base. Model F 62 A to E is available on 195-inch wheel base. F 40 A, F 60A, F 61 A, optional carburetor, Detroit-Lubricator.

F. W. D.

*Indicates six-wheel model. Special power take-off transmission, which provides 3 power take-offs which may be operated in any transmission speed, optional on all models.

*Foot brake on X6 is a Lockheed type, operating on all six wheels.

FEDERAL

*Six wheelers.

GRAMM

*Models L, C, D and E are furnished in three wheel base lengths—others on request.

*Models GY and GYB also available in 190-inch wheel base.

*Models HY and HYB also available in 210-inch wheel base.

Tire sizes and electrical equipment optional, depending upon type of service—coach or van.

*Model O series, large engine, pneumatic tires, special wheel bases optional at extra cost.

*Model T series, large engine, pneumatic tires, special wheel bases and 8 speed transmission optional at extra cost.

GENERAL MOTORS TRUCK LINE

*Capacity indicated for each chassis is the recommended gross weight without exceeding rated capacity of tires. The tire size does not affect the straight rating for which chassis is guaranteed and each model is designed to operate satisfactorily under average conditions with loads giving a total gross weight (chassis, body, equipment and payload) equal to straight rating given below. The additional standard wheel base lengths, the number of additional tire types (tire combinations—each type carrying a recommended gross weight) and the ton range on a nominal payload basis for each model is given below.

Model	Straight Rating	Additional Wh. bases, ins.				Addit'l Tire Types	Pay'l'd Range
T-11	3500	None				None	½
T-15	5400	141				2	¾
T-17	6500	141				6	¾-1¼
T-19	8500	141		152	16	1-2	
T-25	8500	141		152	11	1-1¾	
T-30	11000	152		164	12	1½-2½	
T-42	14000	152	164	181	10	2-3½	
T-44	15000	152	164	181	10	2-4	
T-60	18500	166¾	184½	200¼	16	2½-4½	
T-82	22000	167½	185¼	201	10	3-6	
T-90	28000	201		220	5	5-7½	

Optional rear axle ratios are available for all models.

MACK LINE

Other wheel bases furnished on all truck models.

On 6-wheel jobs, 4 rear wheels driven by chains, foot brake on 4 rear wheels.

HYP—Hypoid drive, single reduction.

††Made also in tractor models.

REO LINE

Model F A also available in 129-inch wheel base.

RUGBY

F—Chassis weight includes body.

STEWART LINE

Model 30 and 30X can also be supplied in 129 and 140-inch wheel base.

Model 40 can also be supplied in 140 and 160-inch wheel base.

*Model 34X can be supplied in 145, 160 and 176-inch wheel base.

Model 28X can be supplied in 145, 160 and 176-inch wheel base.

Model 29XS can be supplied in 160 and 176-inch wheel base.

*Model 26XW can be supplied in 148, 176 and 190-inch wheel base.

*Models 18X, 32X and 33X can be supplied in 148, 190 and 220-inch wheel base.

*Models 19X, 31X and 27X can be supplied in 148 172, 190, 220 and 235-inch wheel base.

As optional equipment models 18X, 19X, 33X, 31X and 27X can be supplied with Timken dual reduction rear axle.

STUDEBAKER LINE

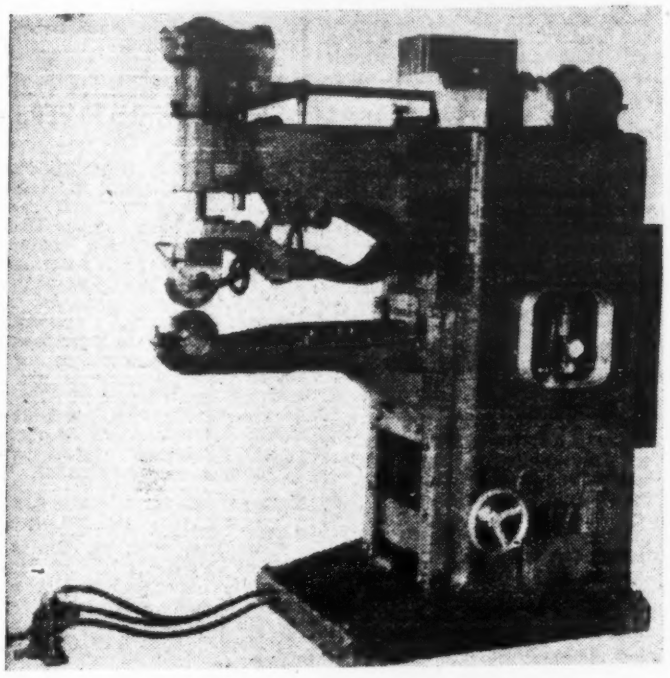
*Capacity model GN-N is 4,000 pounds for body, cab, driver and payload.

Maximum gross load, chassis, body and payload for Models 77 and 88 is 12,500 lbs. and for Model 99 is 14,000 lbs.

‡Hand brake same as foot brake, standard. "Hand brake on drive shaft," special equipment.

Production--Engineering--Factory

Thompson-Gibb Develops New Seam Arc Welder



Thompson-Gibbs seam welder.

The Thompson-Gibb Electric Welding Company, Bay City, has just developed its No. 4 HDA seam welder, which will be exhibited for the first time at the National Metal Exposition, which will be held in Chicago this month.

Several important improvements are incorporated in this new equipment. Although the driving welding roll is, of necessity, a slow revolving member, the shaft and gears driving this roll are designed to revolve at a moderately high speed. The worm reduction unit is placed as close to the welding roll as possible.

An important feature is the design of the perishable parts. Care has been taken in this respect to facilitate replacement with the least possible loss of welding time.

Another design feature is that the driving mechanism is made up of independent units in order that these units may be suitably housed for lubrication purposes, and if occasion demands, easily removed to a work bench for repairing. Such repair work can often be better and more speedily handled on a work bench than on top of, or inside of the machine.

All parts of the machine subjected to the welding heat are adequately cooled by independent circuits of circulating water.

The top casting is integral with the base, affording a rugged foundation on which to mount the several units and to withstand the heavy stresses imposed.

The general description of the machine follows:

The driving mechanism consists of a motor, a 4-speed change gear box for changing welding speeds, a worm reduction unit, a driving head unit, a three-speed change gear box for changing interrupter speeds, and a patented current interrupter.

The motor drives the 4-speed gear box through spur gears. The motor pinion is non-metallic (Micarta), which eliminates noise. Protection is provided by a suitable cast aluminum guard.

The four welding speed change gear box drives the worm reduction unit through spur gears, one being non-metallic. Spur gears are used to provide the most flexible drive possible to meet slower or faster drive shaft speeds due to smaller or larger welding rolls being required for special work, when the actual welding speed per minute must be maintained.

The worm reduction unit in turn drives the upper welding wheel through a vertical shaft, mounted on ball bearings and a set of bevel gears, next to the upper welding wheel. The three-speed change gear box for the interrupter speed is driven from the worm gear reduction shaft by means of a roller chain. This drive is arranged so that the welding speed can be changed without altering the number of current interruptions per inch of weld. However, the number of interruptions per inch of weld can be changed if desired by means of the three-speed interrupter change gear box. The chain and the gears connecting the worm gear reduction unit to the four-speed gear box for the welding speeds are covered by a cast aluminum guard.

The three-speed interrupter change gear box drives the interrupter through a set of two spur gears, one of which is non-metallic.

The four-speed gear box, the three-speed gear box, and the worm reduction unit are all totally inclosed and run in a bath of oil. They are Timken taper roller bearings and all bearings mounted to insure long life under heavy duty and constant working conditions.

An extra upper welding roll and shaft assembly is furnished with each machine in order that "lost welding time" will be only that of changing from the worn to the retrimmed assembly. A special lathe adapter, with a standard taper shank to fit the driving head of the lathe, is furnished with each machine to facilitate the redressing of the welding roll.

Either a straight or a circular seam lower arm can be placed in the lower arm holder. The upper welding head will swivel into position, allowing the machine to seam either straight or circular seams as desired.

The vertical stroke of the upper welding roll assembly is actuated by a double-acting air cylinder, mounted in the upper arm casting. An adjustable compression spring is attached to the operating lever between the air cylinder and the upper welding head spindle. This spring is mounted on a ball thrust bearing to facilitate heavy spring adjustment.

The remote control switch actuating the main contactor for controlling the welding current is attached to the compression spring lever and is so designed that it will not operate until the spring compresses a sufficient amount to exert enough pressure on the work to prevent arcing as the rolls touch the metals to be welded. This switch is fully automatic in its action and regardless of the stroke used or the wear of the welding rolls or their size, it needs no adjustment or attention.

A foot operated valve controls the air and can be moved to any position convenient to the operator. An automatic air line lubricator and an air pressure regulating valve and gauge are included with the equipment.

The transformer, heat regulator, and all electrical parts used on this type of equipment, have been approved by the underwriters. All wiring is inclosed and protected according to the underwriters' specifications.

The machine has a welding capacity permitting it to weld into leakproof seams in production in two thicknesses of No. 14 gauge at six feet per minute. Lighter gauges can be welded at greater speed.

Chemists Discuss Fuel Detonation Characteristics

Engineers have long known that the power and efficiency of the conventional automobile engine could be substantially improved by increasing the prevailing compression ratios, but progress in this direction is definitely limited by the tendency of present-day gasolines to knock. Although it is generally understood that there is considerable variation in the tendency of different commercial gasolines to knock, the magnitude of this variation is small as compared to that which is possible. These observations were included in a paper, "Detonation Characteristics of Some Paraffin Hydrocarbons," prepared by Wheeler G. Lovell, John M. Campbell and T. A. Boyd, which was presented before the division of petroleum chemistry of the American Chemical Society, now in session at Cincinnati, O.

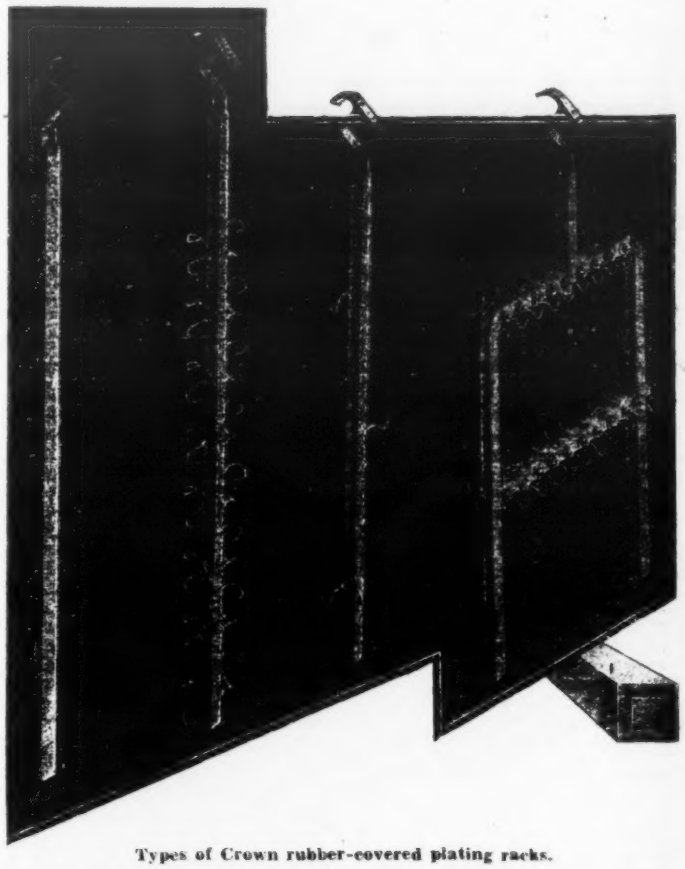
It was pointed out as many as ten years ago that different classes of chemical compounds exhibited widely different tendencies to knock. For example, the paraffin hydrocarbons and ethyl ether were shown to have a greater tendency to knock than substances like benzene and ethyl alcohol. More recently it has been found that large differences in tendency to knock may exist among the paraffin hydrocarbons themselves. Thus normal heptane was found to be a fuel of very low antiknock quality in comparison with 2:2:4-trimethyl pentane, a fuel of high antiknock quality. Differences in knock rating have also been reported among some of the isomeric octanes.

The aim of the paper was to extend this existing knowledge to include twenty-six paraffin hydrocarbons. This work was begun in 1926 as part of a program to gather data upon the relative detonation characteristics of pure substances suitable for fuel in an engine which would be comprehensive enough to establish the relationship between structure and detonation characteristics. It is believed that the data presented forms a fairly consistent picture of this kind for the paraffin hydrocarbons boiling within the gasoline range.

The knock ratings of these hydrocarbons have been determined in admixture with a regular commercial gasoline in the amount of one gram mol of the hydrocarbon to a liter of gasoline. These knock ratings found have been expressed on a common molecular basis, using the antiknock effect of aniline as the standard of comparison.

Upon this basis a definite relationship between molecular structure and tendency to knock has been found for these compounds. This relationship may be summarized in the statement that in a homologous series the tendency to knock increases with the increasing length of the carbon chain, and in an isomeric series the tendency to knock usually decreases as the number of side chains is increased. The successive introduction of methyl groups into a carbon chain of given length also decreases the tendency to knock.

Crown Supply Markets New Plating Racks



Types of Crown rubber-covered plating racks.

The Crown Rheostat and Supply Company, Chicago, Ill., are now marketing a new line of rubber covered racks for suspending articles in electro-plating solutions.

These racks are offered in a variety of shapes, all of which are covered with solid red rubber. They are of one-piece construction for each straight spine. There are no seams, except at joints, which are tightly sealed. No soldered joints are used. The makers claim that their method of insulating the racks overcomes cracking and loosening of the insulation.

It is stated that the use of metal racks without insulation are the cause of losses in plating operations, due to their taking up of current and building up of metal on them, which is obviated when rubber covered racks are used. The standard rod used is $\frac{3}{8}$ inch square and has a carrying capacity of 100 amperes. Greater capacities can be furnished if desired.

Hooks are directly connected with the spines, each hook being seated and sealed with a rubber washer and is easily removable and replaceable.

COMPATIBILITY OF RESINS WITH SOLUTIONS OF NITROCELLULOSE

The following is an abstract of a paper presented by Harry E. Holman before the paint and varnish division of the American Chemical Society, now in session at Cincinnati, O.

This paper discusses the phenomenon of incompatibility of resins and nitrocellulose solutions, commonly called "gum blush." Experimental data obtained with eleven different resins and twelve different solvents are tabulated and discussed. Both resins and solvents are divided into two groups—the alcohol-soluble type and the hydrocarbon-soluble type. The behavior of each is discussed briefly in connection with the experimental data. The changing of solvent composition in mixtures and its effect on compatibility is also discussed. The principal points brought out in the paper may be summarized as follows:

1. The alcohol-type resins are most readily soluble in the alcohol-type solvents, and the hydrocarbon-type resins in the hydrocarbon-type solvents.

2. A few resins appear to be solvents for nitrocellulose, but most ordinary resins are not miscible with nitrocellulose under all conditions, and in all solvents. This immiscibility is known as incompatibility, or "gum blush."

3. Compatibility is most readily obtained by the use of a resin and a solvent belonging to the same class.

4. Incompatibility can often be relieved by addition of a solvent complementary to that originally present in the lacquer, and in some cases by the addition of a resin complementary to that already used.

5. Plasticizers, which may be considered as solvents, affect compatibility in different degrees.

6. Changing solvent composition during the drying of the film may cause incompatibility to develop.

Warner to Address A Meeting of S. A. E.

Indianapolis, Ind., Sept. 11.—The fall season of the Indiana section, Society of Automotive Engineers, will be inaugurated with the first meeting, scheduled for Thursday, September 18, according to announcement made here by Louis Schwitzer, newly elected chairman. Mr. Schwitzer, prominent engineering authority who has always taken a leading part in section affairs, succeeds Bert Dingley, vice-president of the Stutz Motor Car Company, in the chair.

Edward P. Warner, president of the national society and editor of Aviation, has been engaged as the principal speaker, the announcement said, and the subject of the discussion will be that on which Mr. Warner is so well versed—aviation. An informal get-together program with special entertainment will precede the dinner and formal meeting. Mr. Schwitzer said in announcing that the program committee had spent much time during the summer in preparing an interesting series of fall and winter meetings.

AUBURN-CORD SALESMEN IN CONTEST UNDER GUISE OF KEEN ELECTION CAMPAIGN

By K. H. LANSING

A HIGHLY original special sales contest for business during September, in the form of a rousing, old-fashioned election campaign, has been launched by the Teefy-Seltz Company, Inc., Cord and Auburn distributor, Philadelphia. The campaign centers around the election of the organization's choice, "Joe Gettem," as candidate of the Optimist Party, opposed to "Fred Gloom," the selection of the Pessimist Party. Adopting for its slogan "Happy times are here again," the Optimist Party is out to cause a landslide of votes for "Joe Gettem" and prosperity through the 175 salesmen of the company's dealers in the territory, including those of its own retail department, entered in the contest, which will close September 30.

The entire plan has as its basis the firm conviction of the Teefy-Seltz Company that the long-awaited turn for the better in business came on Labor Day, September 1, supported by expressions from national leaders in business, industry and finance that improved conditions are at hand. It was decided by the company that it would immediately do what it could through its own organization to help hasten realization of the "Happy Days" by going after business in earnest, thus affording opportunity to the dealers' salesmen to make money for themselves. In addition, the high men in the contest will win cash prizes in gold, and other awards have been offered.

There was engaging mystery at the outset. The company mailed a letter to each dealer merely announcing that an important meeting would be held in its building, 1419-21 Spring Garden St., at 8 o'clock on the evening of September 4, requesting him to bring all his salesmen with him. When the 125 dealers and salesmen who could come arrived on the office floor, the surprise nearly took them off their feet. On a platform at one end, backed by a large American flag, was the orthodox "speakers' table" of old-time political campaign memory, supporting the time-honored pitcher of water and glass. Pennants and bunting hung in profusion overhead; brass spittoons punctuated space by the aisle chairs and to every aisle was allotted a big wastebasket filled with peanuts for refreshments. Boy attendants distributed among the audience little papier mache derbies—the customary "iron hats" for politicians. Hardly had the visiting dealers and salesmen got these hats adjusted, than two "newsboys," blacked up for the occasion, dashed into the hall shouting their "extras," which proved to be a green one-sheet newspaper, "Better Times," issued by the Teefy-Seltz Company, explanatory of the purposes and mechanics of the campaign, backing Joe Gettem as a 3-to-1 favorite, and ornamented with a three-column cut of a vast gathering, purporting to be snapped at a recent political rally for Joe.

Optimistic expressions regarding business, from world figures and others, and items about heightened activity in industry helped to fill the columns. There was also an obituary of "A. De Pression," who "passed away on Labor Day." Every one present was "sold" on the edition. The audience was requested to remove its coats and obliged at once. George E. Chisholm, sales promotion manager of the Teefy-Seltz Company, and originator of the election campaign contest, as chairman of the meeting, introduced the various speakers, which included W. D. Teefy, president of the company; Adolph Seltz and Joseph Batten, of the Northwestern National Bank, Philadelphia.

As the objects and plans of the contest were explained, supplementary slips, reproduced from typing, were distributed among the audience, for their better comprehension. One contained "The Optimist's Creed," asserting belief that Labor Day marked the opening of a period of good business, and pledge to be signed by each dealer that he would try to prove it by recording the votes he thought he could get for the Optimist party candidate. Another was the "Balloting Instructions," in outline as follows:

Votes for "Joe Gettem" will be recorded, according to this schedule: Delivery of Cord, 50 votes; delivery of Auburn 125, 30 votes; delivery of Auburn 8-95, 20 votes; delivery of Auburn 6-85, 10 votes; delivery of used cars valued at $300 or over, only, 10 votes. Sales do not count until the car has been delivered, and owners' cards must accompany the report of delivered cars. A copy of the original order must accompany the report of used car sales. Any salesman may get credit for used cars not exceeding the number of new cars sold by him. If he sells four used cars and only three new cars, he will get credit for only three used cars. Cars sold between September 1 and 30 count when they are delivered. Cars sold in this period must be delivered before October 5 to count.

As to prizes: Each salesman may qualify for one of the following prizes, depending on the number of votes he records for the Optimist Party:

Fifty votes, $20 in gold; 80 votes, $50 in gold; 90 votes, $75 in gold; 100 votes, $100 in gold and 120 votes, $125 in gold. Vice-President Roy Faulkner of the factory organization has offered three Hamilton wrist watches as prizes to the three salesmen selling the greatest number of Cord cars.

Daily reports must be made out by every salesman and turned in to his dealer, such reports covering daily calls, daily demonstrations and daily sales of Cords and the various Auburn models and used cars; and votes (deliveries, made daily) therefor. The dealer must forward these reports to the Teefy-Seltz Company, accompanied by a dealer report showing a summary of the activity of all his salesmen. Failure to send in reports of either group regularly automatically causes ineligibility for prizes.

The Teefy-Seltz Company is sending out to each dealer and salesman a letter of encouragement in the campaign, appropriately headed, one such heading being "A Pot of Gold," showing a rainbow illustration with the pot at a base of the bow. A bulletin board for recording the daily "returns" is being kept by the Teefy-Seltz Company and there is also posted a vast collection of optimistic expressions from factors in the business, industrial and financial world, clipped from newspapers. A spirit of enthusiasm pervaded the meeting and dealer and salesman pledges to "get the votes for Gettem" were promptly made. The Teefy-Seltz Company feels that already it has brought about the desired feeling of optimistic determination among its dealers and their salesmen. It is planned to issue two more "newspaper" editions and there will be one more campaign meeting at the Teefy-Seltz Company building before the final dinner and distribution of prizes at a local hotel.

The factory has sent a letter of congratulation to the company on its campaign plan and the New York organization plans to reproduce the idea there.

KELLY-SPRINGFIELD TIRE FIGHTING RECEIVERSHIP

Newark, N. J., Sept. 11.—Equity receivership suits filed in Chancery Court at Jersey City and Federal Court here seeking the appointment of receivers are being strenuously opposed by the Kelly-Springfield Tire Company, a New Jersey corporation.

Samuel Woolner, Jr., president of the company, stated yesterday that the suits and applications for the appointment of receivers are unfounded and unjustified. He said the balance sheet as of July 31 last shows current assets of approximately $13,000,000 against current liabilities of about $2,100,000.

N. Y. AUTOMOBILE MERCHANTS GOLF TOURNAMENT SEPT. 16

New York, Sept. 11.—The Automobile Merchants Association of New York, Inc., will hold its semi-final golf tournament of the season on Tuesday, September 16, at the Westchester Hills Golf Club, White Plains.

CLASSIFIED ADVERTISEMENTS IN THE AUTOMOTIVE DAILY NEWS BRING RESULTS

New York City Dealers Find That Caution in Setting Trading Price Pays

By STEVE STEVENSON

CAUTION in setting a trading price will result in more used car sales. That is the basis upon which New York city used car dealers started doing business August 1 and as a result during the past three weeks it has been on the upgrade.

Discussing the new policy, R. K. Haines, manager of the used car department for Chrysler in New York city, said:

"The selling of used cars has been retarded by the fact that dealers have allowed too much trading value on the automobiles when they have been traded as payment on new cars. That resulted in the necessity for placing high prices on the traded cars when they were placed on the used car floor for sale."

Haines, whose opinion is also the consensus of other used car department managers in New York, pointed out that if late 1929 or early 1930 models could be obtained by dealers on a trade-in value of fifty cents on the dollar, that the used cars could be sold more readily at a profit to used car purchasers.

"Dealers, who are obtaining second-hand cars on 'trade-ins' on a basis of 50 cents on the dollar for late '29s and early '30s should be transacting just as much business now as during the same time in 1929. Not in dollars and cents but in units. Of course, the money involved will be lower, but the same number of cars should be sold."

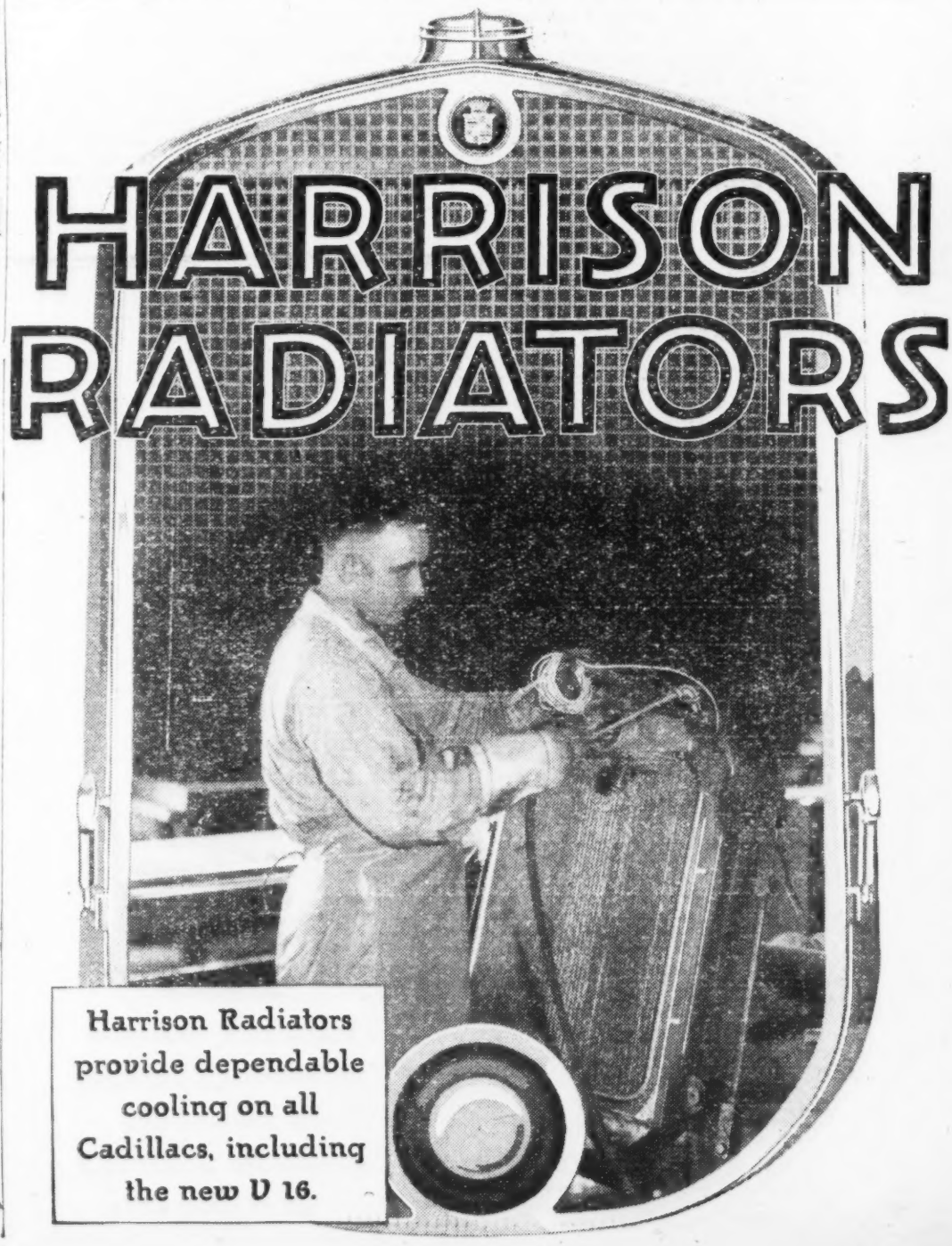
The future of the used car business in New York city depends on the continuance of the dealers to obtain their second-hand cars on a basis that will make the resale price attractive to potential customers.

One of the dealers pointed out that due to price reductions on new cars that it was necessary to reduce used car values to such an extent that a person desiring to purchase a second-hand car will believe he will obtain more service, for the price, than from a new automobile.

"If a man can purchase a new car from $1,000 and is a used car will cost him $600 or $700, it is practically a certainty that he will buy the new car," said another dealer. "In other words, the customers are looking for bargains, and unless the used car prices are considered as such no sales will be made."

However, it was the opinion of practically all of the used car department managers that, due to the new policy of allowing less trade-in values, and as a result a lower resale price, that the used car business had not only improved during the past three weeks, but would continue to improve.

Slight improvement in the payments of installments on used cars was noted during the past ten days in New York. For several months payments have been slow and are not yet up to normal, but, according to most of the dealers, there is now more of a tendency for purchasers of used cars to "pay off" their notes than in the past.

All of the New York used car dealers anticipate that business will "pick up" after Labor Day, when all lines of endeavor in the city are expected to start "full speed" ahead for another business year.

Although most of the dealers are optimistic over future prospects, nevertheless they are cautious and are not making any drastic changes in policies, with the exception of allowing lower trade-in values on used cars.